

**SUBMISSIONS BY THE BANK OF CANADA
TO THE
ROYAL COMMISSION ON BANKING
AND FINANCE**

MAY 31, 1962

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BANK OF CANADA *Ottawa*

May 31, 1962.

The Hon. Dana Porter,
Chairman,
Royal Commission on Banking and Finance,
Toronto.

Dear Sir,

I have the honour to provide herewith the following submissions of the Bank of Canada to the Royal Commission on Banking and Finance:

Submission I: The Constitution and Functions of the Bank of Canada

Submission II: The Role of Monetary Policy

Submission III: The Techniques of Monetary Policy

Submission IV: The Role of the Bank of Canada in Debt Management

Submission V: The Role of the Bank of Canada in Foreign Exchange

Yours very truly,

W. Hasinsky
Governor



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Submission by the Bank of Canada to
the Royal Commission on Banking and Finance

May 31, 1962

**I: THE CONSTITUTION AND FUNCTIONS
OF THE BANK OF CANADA**

I—THE CONSTITUTION AND FUNCTIONS OF THE BANK OF CANADA

Ownership

1. The Bank was founded in 1934 as a privately-owned corporation. By 1938 ownership had passed in two stages to the Government of Canada and since that time the Minister of Finance has held the entire \$5 million share capital issued by the Bank. The Bank of Canada Act provides that, except for such amounts as may be required (under a formula laid down in the Act) to build up the Rest Fund gradually to \$25 million, the annual profits of the Bank are to be remitted to the Receiver General of Canada for credit to the Consolidated Revenue Fund. The Rest Fund limit was reached in 1956 and since then all of the profits have gone to the Receiver General.

Management

2. The responsibility for the affairs of the Bank of Canada rests with a Board of Directors composed of the Governor, the Deputy Governor and twelve Directors. The Directors are appointed for three-year terms by the Minister of Finance with the approval of the Governor in Council. They must be selected from diversified occupations, and no Director can be a director, officer or shareholder of a chartered bank. The Directors, in turn, appoint the Governor and Deputy Governor, also with the approval of the Governor in Council, for seven-year terms during good behaviour. The Governor, the Deputy Governor and the Directors are eligible for reappointment on the expiration of their terms of office. In the transaction of the business of the Bank each Director has one vote. The Deputy Minister of Finance sits on the Board but does not have the right to vote. The Board normally meets eight times a year. Between its meetings an Executive Committee, composed of the Governor, the Deputy Governor, one Director and the Deputy Minister of Finance (without a vote), acts for the Board and has all the powers of the Board. It is required to submit its minutes to the next Board meeting. It is specified by By-Law that the Executive Committee shall meet at least once every week and in practice any Director who is in Ottawa on the day of the meeting attends.

3. The presence of the Deputy Minister of Finance on both the Board of Directors and the Executive Com-

mittee provides a formal channel of communication between the Bank of Canada and the Department of Finance. It is supplemented by many other closer contacts of a less formal character.

4. The Governor is Chairman of the Board and chief executive officer of the Bank and handles the direction and control of the Bank's affairs on behalf of the Board. The Governor has the power to veto any decision of the Board or its Executive Committee but must inform the Minister of Finance of his action within seven days, and the Governor in Council may confirm or disallow the veto. Any Director may also inform the Minister of his view of the matter in question and this must also be transmitted to the Governor in Council. There has been no occasion on which the Governor has exercised his right of veto.

5. In the absence of the Governor, the Deputy Governor exercises all the powers of the office.

6. The salaries of the Governor and Deputy Governor, who are full-time officers of the Bank, are determined by the Directors subject to the approval of the Governor in Council. The other Directors are not paid salaries: they are entitled to receive fees for attendance at meetings of the Board and the Executive Committee which, exclusive of expenses, cannot exceed \$30,000 per year for the Board as a whole.

7. In addition to the Deputy Governor who is a member of the Board of Directors, there may be one or more Deputy Governors appointed by the Board to perform such duties as are assigned to them. At the present time there are two Deputy Governors so appointed by the Board.

Monetary Policy Function

8. The duties of the Bank are stated in a very general way in the preamble to the Act, which indicates that the Bank is to "regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment,

so far as may be possible within the scope of monetary action, and generally to promote the economic and financial welfare of the Dominion". The Act does not specify the methods by which the Bank should pursue its objectives but certain powers that it grants to the Bank, together with certain provisions of other legislation, enable the Bank to influence credit conditions in the economy.

9. The Bank of Canada Act gives the Bank the sole right to issue notes payable to bearer on demand intended for circulation in Canada, and the Currency, Mint and Exchange Fund Act provides that Bank of Canada notes are legal tender and, except for gold coin, and subsidiary coin in very small amounts, the only form of legal tender in Canada. (The Bank of Canada Act provides that Bank of Canada notes shall be redeemable in gold, and that it shall maintain a gold reserve of at least 25 per cent against its outstanding notes and deposit liabilities. The gold redemption requirement has been suspended each year since 1934 by order-in-council under section 22 of the Bank of Canada Act. The gold reserve requirement was withdrawn in 1940 by the Exchange Fund Order and this withdrawal was continued by subsequent legislation — since 1952 by the Currency, Mint and Exchange Fund Act — subject to reimposition by order-in-council.)

10. The Bank Act requires that each chartered bank maintain on the average during each calendar month cash reserves in the form of Bank of Canada notes and deposits at the Bank of Canada equal to at least 8 per cent of its Canadian dollar deposit liabilities. The Bank of Canada Act permits the Bank to buy and sell a broad range of financial assets. These provisions enable the Bank to vary the amount of cash reserves available to the banking system and by so doing to regulate the broad trend of the combined total of currency outside banks and chartered bank deposit liabilities in a manner consistent with the changes in credit conditions which it considers appropriate in all the circumstances.

11. The Bank of Canada may buy and sell Government of Canada securities (including guaranteed issues), provincial securities, bills of exchange and bankers' acceptances, foreign exchange, securities of the United States and short-term securities of the United Kingdom. The Bank may also acquire securities issued by its subsidiary, the Industrial Development Bank, as provided in the Industrial Development Bank Act. In practice, purchases and sales of financial assets undertaken for the purpose of influencing monetary and credit condi-

tions have been conducted almost exclusively in Government of Canada securities.

12. The Bank may make short-term advances to chartered banks or to banks which operate under the Quebec Savings Bank Act on the pledge or hypothecation of a wide range of financial assets. The Bank may also make short-term advances to the Government of Canada. The minimum rate at which the Bank is prepared to make advances is called the Bank Rate and the Bank of Canada Act requires that it shall be made public at all times. The Bank also enters into purchase and resale agreements with money market dealers.

13. The Bank has the power to alter the minimum cash reserve ratio of the chartered banks between 8 per cent and 12 per cent provided that it gives notice of at least one month before any change is made and provided that it does not increase the ratio by more than one percentage point in any one month. This power, which was granted to the Bank at the time of the 1954 revision of the Bank of Canada Act, has not been used to date.

Fiscal Agency Functions

14. The Bank of Canada Act requires the Bank to act as fiscal agent for the Government of Canada without charge. In this capacity it operates the Government's deposit account through which flow virtually all Government receipts and expenditures, handles debt management and foreign exchange transactions for the Government, and acts as an adviser. In respect of debt management, the Bank looks after the arrangements for the sale of new Government security issues and all the work connected with the outstanding public debt, including the maintenance of records, interest payments and redemption of Government securities at maturity date; the Bank, however, acts only as fiscal agent and the responsibility for debt management policy rests with the Government. The Bank handles the foreign exchange business of the Government including the transactions of the Exchange Fund account which it carries out on the instructions of the Minister of Finance; the responsibility for policy in this respect rests with the Government.

Other Functions

15. In addition to the accounts of the Government of Canada and the chartered banks, the Bank of Canada operates deposit accounts for the banks which operate under the terms of the Quebec Savings Bank Act, and

for foreign central banks and international financial institutions. The Government of Canada maintains foreign currency balances with the Bank of Canada and in this connection and in order to facilitate foreign exchange arrangements the Bank of Canada carries foreign currency accounts with foreign central banks. The Bank of Canada does not accept deposits from the general public.

16. The Bank is empowered to accept deposits from and make short-term loans to any provincial government. By agreement with a province the Bank may act as its banker and fiscal agent. No arrangements of this nature have been made.

17. Canadian coin is made and issued by the Royal Canadian Mint but the Bank of Canada arranges for shipment to the main branches of the chartered banks.

Internal Organization

18. Of the Bank's total staff of 800 about three-quarters are engaged in the servicing of the currency and the public debt and in its banking functions. The Securities and Foreign Departments carry out the Bank's open market operations and its work on behalf of the Government in connection with debt management and foreign exchange operations; they provide the Bank with its constant contact with financial markets and have a staff of about 50. In the Research Department about 70 employees are engaged in compiling, analyzing and interpreting economic and financial information for the use of the management. Actual numbers in each section of the Bank, including its nine regional agencies, as at January 1, 1962, are shown as follows:

Bank of Canada Staff at January 1, 1962

(excl. Building Maintenance Personnel)

		Of Which:	
	Total	Men	Women
Governors and Executive Assistants ..	6	6	—
Research Department	72	25	47
Securities Department	36	23	13
Foreign Exchange Department	13	7	6
Audit Department	28	6	22
Chief Accountant's Department	10	9	1
Currency Division	59	14	45
Public Debt Division	239	27	212
Secretary's Department	114	43	71
Regional Agencies	221	99	122
	<hr/>	<hr/>	<hr/>
	798	259	539
	<hr/>	<hr/>	<hr/>

Reporting

19. The Act provides that within two months after the end of the financial year the Bank shall transmit to the Minister of Finance a statement of its accounts and an Annual Report by the Governor covering such matters as he may deem desirable or as the Minister may require. It also provides for publication of the Bank's statement of its assets and liabilities as at each Wednesday and each month-end. In addition the Bank issues each Thursday a Weekly Financial Statistics release covering the more liquid assets of the chartered banks as of the day before, and all their major asset and liability items as of eight days before. Each month the Bank publishes a Statistical Summary which is chiefly directed towards financial data but includes also most of the major series of economic statistics.

II: THE ROLE OF MONETARY POLICY

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II—THE ROLE OF MONETARY POLICY¹

A. The Objectives and Scope of Monetary Policy

1. The broad objectives of monetary policy are those of public economic policy generally. Monetary policy operates as one important element in the totality of national policies, both financial and non-financial, which are directed towards broad national economic goals. The preamble to the Bank of Canada Act describes the functions of the Bank as being "to regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit² and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment, so far as may be possible within the scope of monetary action, and generally to promote the economic and financial welfare of the Dominion". In Canada the standards for "the economic and financial welfare" of the nation are rightly set high and may be said to include: sustained economic growth at high levels of employment and efficiency, internal price stability and the maintenance of a sound external financial position, an equitable sharing of economic benefits and burdens and the maintenance of a high degree of economic freedom.

2. Good progress toward the nation's economic goals depends on a wide range of factors, many of which are beyond the direct and immediate control of public policy. This is particularly true of a country such as Canada, on which external economic developments are bound to have a major impact and in which private enterprise has traditionally played a major role. Developments in the outside world determine the environment in which Canadians must sell their exports and compete with imports, and these developments are often of critical importance to Canada which is so heavily dependent on foreign trade and foreign investment. Much also depends on the enterprise of management, the skill and self-discipline of the whole population, and the natural resources, capital equipment and productive techniques available. The possibility of maintaining a satisfactory rate of growth in employment and output, given the shifting demands and preferences of final consumers in Canada and abroad and the degree of competition from foreign suppliers, also depends very much on the degree to which labour, management, and plant capacity can

shift from declining products into new lines of work (perhaps in new locations) for which markets are expanding. In addition, the efficient performance of our economy depends to a considerable extent on the responsiveness and competitiveness of the markets for goods, services and finance and on the appropriateness of the various regulations and practices affecting particular industries and groups which have come to be regarded as part of the ground rules of the system. For the various reasons enumerated in this paragraph public economic policies, though always important, are by no means always the dominant influence on economic developments.

3. Modern economies are so complex that in the present state of economic knowledge it is difficult to diagnose with precision the causes of unsatisfactory economic performance or to prescribe with confidence effective remedial measures, let alone to bring them into force. Public economic policy (including monetary policy) must therefore to some extent feel its way along on the basis of imperfect knowledge. Moreover, it is always subject to limits imposed by public understanding and acceptance of what it is seeking to achieve and of the means which it employs.

4. A prime task of public economic policy is to influence the changing level and pattern of over-all demand for goods and services in a manner which is appropriate to the economic circumstances, including particularly the degree of utilization of the nation's productive capacity and labour supply, the degree of pressure on price levels, and the state of its balance of international payments. To take the simplest case, the emergence of substantial unemployment together with idle plant capacity and a much reduced level of imports would point to the desirability of measures which would temporarily at any rate stimulate demand. On the other hand, in a situation which combined strong upward pressure on prices and costs, a tight labour market and a sharply rising level of imports, there clearly would be need for measures designed to impose some temporary restraint on the growth in demand. In practice, of course, the indicators of the direction which policy should take may be ambiguous; and even where there is no doubt about the appropriate direction, decisions about the exact measures to use will always be difficult.

5. So far as monetary policy is concerned the central bank must over the years satisfy the need of a growing economy for a larger stock of money, and in the course of doing so it can, over shorter periods, help to moderate undesirable swings in the level of over-all demand. The

¹The text of a statement on this subject by the Governor of the Bank of Canada issued on August 1, 1961 is appended to this submission.

²Since 1939 the direct responsibility for Canada's foreign exchange policy has, under various Acts of Parliament, been vested in the Government of Canada. In its monetary management the Bank must, of course, take account at all times of Canada's balance of international payments and the need to maintain a sound external financial position.

financial policies of the Government will also have an important influence on the level of over-all demand. Indeed, fiscal measures (affecting among other things the balance between Government receipts and outlays), debt management measures (affecting the maturity distribution and other aspects of the structure of Government debt) and central bank operations may be regarded to some extent as alternative methods of influencing demand and the level of activity. For example, the economic situation might be characterized by strongly rising pressure of demand involving a serious risk of inflation. If the public policies adopted to deal with this situation included strong fiscal measures designed to exercise restraint on demand, the need for a monetary policy that accepted relatively high interest rates would be much less than if fiscal restraint were not exercised vigorously.

6. There will, however, be differences in the way in which different combinations of public policies aimed at the same general objectives work out their effects on the economy. The choice of policies depends upon the results that are sought and the speed with which they are sought in the particular circumstances. For example, different combinations of policy measures will have different effects on the country's external financial position, and over a period of time there is a choice of measures that can be taken to accommodate the requirements of external financial balance. A country's deficit or surplus on international transactions in goods and services must, of course, be matched by a net inflow or outflow on capital account or by changes in official reserves. Within limits, foreign exchange reserves can play an important part in cushioning disturbances in the external balance, but subject to this, external financial balance is dependent upon appropriate domestic policies. Among these, the degree of emphasis on monetary policy can vary in accordance with the nature and timing of changes in other policies. Because of its flexibility monetary policy can be used, for example, to try to achieve a relationship between interest rates in internal and external markets which is consistent with the flow of capital needed in the circumstances while changes in other policies are being made with a view to altering the underlying balance of payments situation.

7. The choice among various combinations of policy measures always involves difficult judgments as to which combination will in fact best serve to promote the community's objectives. At any given moment, of course, the choice is influenced by institutional arrangements such as the practice of annual budgeting. The fact that taxation and Government expenditure programmes tend to be fixed for a year ahead means that they cannot quickly be adapted to the changing requirements of the

current economic situation, whereas monetary policy (and to some extent debt management policy) are much more flexible. It is worth noting here that several countries have recently taken steps looking towards more flexibility in rates of taxation as a means of influencing economic conditions.

8. As indicated above, there is considerable scope for varying the way in which fiscal, debt management, and monetary policies are combined, and it may very well be desirable at times to alter the "mix" by relying more heavily on some of these policies than on others to achieve the desired goals. The need for a consciously co-ordinated blending of policies has been recognized by many observers. The Governor of the Bank in a public statement issued on August 1, 1961 referred to "the need for a careful and consistent meshing together of all the various aspects of financial policy and general economic policy in the effort to attain . . (these) objectives while avoiding undue strains in particular sectors. In particular, since monetary policy, fiscal policy and debt management policy are interdependent and to some extent inter-changeable, there has to be a high degree of co-ordination to ensure that the blend or 'mix' of these policies is purposefully directed towards attaining the over-all economic objectives of the community."

9. One of the important functions performed by the central bank is to influence the decisions which determine the "mix" of policies in the financial and economic field. The central bank is not endowed with superior wisdom in these matters but it is charged by statute with important responsibilities and must make its own judgments regarding the degree of central bank action and the net balance of other policy measures which seem appropriate in the circumstances. It can and should make its point of view known to the Government. The central bank will bring to such discussions certain special expertise resulting from the closeness of its operational contacts with financial markets. Its influence will depend in part on the quality of its economic and financial information and analysis and on the standing it enjoys in the Government and in the community generally. It is clearly of great importance that there should be close and continuous consultation between the Government and the central bank at all times if the central bank is to exert an appropriate influence in developing and maintaining suitable and properly co-ordinated monetary, fiscal and debt management policies.

10. The central bank can and should express its views on these matters to the Government, on occasion even to the point of private "nagging". But in the final analysis it must take the Government's expenditure, taxation, and debt management policies as given (even though it

may be trying in private to persuade the Government to change one or more of these policies) and must follow the monetary policy which, in these circumstances and having regard to the over-all economic situation, seems the most appropriate. Its field of choice may be greatly restricted by the other policies being followed, since the central bank cannot base its own policy on objectives that differ in a major way from those on which other public financial policies are based, but it may on occasion have to be influenced by its view of the speed with which the latter will be adapted to the changing requirements of the over-all economic situation. Clearly monetary policy cannot be formulated or judged in isolation but only in the context of the continuing appropriateness of the total "mix" of policies to the circumstances and problems of the time.

B. The Influence of Credit Conditions on the Demand for Goods and Services

11. The operations of the Bank of Canada exert their influence on the level of demand for goods and services through their effects on credit conditions. By credit conditions is meant the whole range of terms and conditions affecting borrowing and lending and the purchase and sale of financial assets: the level and structure of securities prices and yields, institutional lending and deposit rates, and the various requirements (over and above the payment of a certain rate of interest) which lenders require of borrowers as a condition of making funds available, e.g. the specifications of standards of credit-worthiness, collateral security, repayment period, etc. Credit conditions are also affected by many factors other than Bank of Canada operations, but before discussing these, it may be useful to consider in a general way how credit conditions influence the level of spending on goods and services.

12. If business firms, individuals or governments are to increase their rate of spending in relation to income, they must be willing and able to finance the additional expenditure involved. This will entail either additional borrowing, or disposing of financial assets already owned, or foregoing the accumulation of financial assets which would otherwise have taken place out of current income. Each of these methods of financing involves an impairment of the spender's financial position compared with what it might otherwise have been. Every spender must continually weigh the attractions and advantages of an increase in spending against the risks, difficulties and disadvantages involved in financing it, given the circumstances prevailing at the time. The extent to which spenders are willing and able to go on stepping up their rate of spending relative to their incomes, i.e. in pressing

their demands for goods and services at the expense of their financial positions, will clearly be influenced to some degree by the conditions, both current and prospective, which confront them in financial markets. Relevant considerations include the current and prospective availability and cost of credit, the current and prospective interest or dividend return available on financial assets of various kinds, the current and prospective prices at which securities can be bought or sold and the associated risk of capital loss or chance of capital gain. Other things being equal, the more difficult, expensive or risky it becomes to borrow (and the more attractive it becomes to acquire or hold financial assets) the greater will be the restraining influence of credit conditions on the demand for goods and services. On the other hand the easier, cheaper or less risky it becomes to borrow (and the less attractive it becomes to acquire or hold financial assets) the more stimulating will be the influence of credit conditions on the demand for goods and services.

13. A tightening or easing of credit conditions is likely to be reflected in the availability of credit as well as in the effective interest yields obtainable on financial assets of various kinds. Rising interest rates and falling securities prices generally tend to be associated with a stiffening of the non-price terms and conditions of new loan contracts; conversely, a decline in the cost of borrowing is likely to be accompanied by an easing of other credit terms as lenders are induced by the desire to remain fully invested to be less selective in the credit risks which they accept.

14. Considerations of availability may often be more important to a borrower than interest rate considerations because of the practices followed by lenders and the imperfections of financial markets. For example, some financial institutions may be subject to legal ceilings on the rates of interest that they can charge and when these ceilings have been reached they may have no choice but to ration credit in other ways. In some areas of the financial market interest rates, even though not subject to legal ceilings, may be sticky and this may temporarily at any rate produce a similar result. Other lenders, at some level of interest rates, may impose a limit on themselves rather than risk public criticism of higher rates. If there is not a sufficient diversification of lending channels some borrowers who cannot obtain credit from their normal sources may find that credit is not available from other sources even though they would be willing to pay relatively high interest rates.

15. In certain cases the supply of funds available at going rates of interest is restricted by the unwillingness of financial institutions to incur the losses involved in

selling securities at a relatively low price even in order to acquire higher-yielding assets. Such losses would tend to lower the earnings shown for the current financial year or, if this could be avoided by charging them to contingency reserves, they might reduce those reserves to an unacceptable level. In this case the reduction in the availability of funds arises from the nature of conventional accounting practices.

16. The flow of funds from investors to borrowers may on occasion be strongly affected if the market comes to feel that current market levels of interest rates are inappropriate. If investors are convinced that the level of rates is too low they may delay making investments. If borrowers feel the level is too high they may put off borrowing as long as they can. The flow of new issues in the capital market may be brought to a virtual standstill if the consensus of either investors or borrowers is that they can do better by waiting.

17. In general, the fewer the rigidities and imperfections in financial markets the more are credit conditions mainly a matter of the cost of money. The more widespread the rigidities and imperfections the more important become considerations of availability.

18. The effect of changes in the cost and availability of credit is of course not the same for everyone. Some kinds of spenders and some kinds of spending are probably relatively little affected; for example, many consumers seem quite insensitive to changes in rates of interest charged on their borrowings and rates of return available on the investment of their savings. Small changes in interest rates may have a negligible effect on the investment spending of business firms in cases where cost of capital is a minor element in total costs, or where repayment periods are relatively short and anticipated rates of return are relatively high. In other cases credit conditions may be given much more weight. Investment spending in industries employing large amounts of capital in relation to annual turnover and operating on relatively low profit margins seems particularly likely to be sensitive to changes in interest rates. Some borrowers have a wide variety of alternative sources of funds to turn to if their full credit demands should happen to be scaled down or refused by the lending institution on which they normally rely, but others who do not have such alternatives open to them are much more sensitive to changes in credit conditions.

19. In general, it would appear that most spending plans are probably open to marginal trimming or enlargement and, within limits, to postponement or acceleration depending upon financial conditions. Where there is some doubt as to whether or not to proceed, or how far or how fast to proceed, it may not take more than a minor change in credit conditions to resolve the

doubts one way or the other. While small changes in credit conditions may have only a small impact on the level of demand for goods and services, it is also no doubt the case that large changes in credit conditions have a large impact on demand.

20. The exact strength of the influence of changes in credit conditions on spending decisions at any particular moment in time cannot be known with certainty either in advance or in retrospect, and the evidence that is available is subject to differing interpretations. An important reason for this is that spending decisions are also influenced by an enormously wide range of other factors. Business spending plans are often appreciably changed, for example, by the discovery of new production techniques, the availability of new machinery and equipment, the discovery of new natural resources, changes in the cost of materials and labour and in taxation arrangements and, more generally, by changes in the levels of current or expected business profits. Similarly, consumer spending plans are frequently changed by the appearance on the market of new or different goods and services, by changes in tastes and customs, and by changes in the actual or expected levels of personal income. These various influences give rise to continuous and sometimes sharp changes in the trend of total spending.

C. The Main Factors Affecting Credit Conditions

21. The succeeding sections of this submission are devoted to discussion of the nature and extent of the central bank's ability to influence credit conditions and of the considerations relevant to the appropriate use of that ability. But this must not be taken to imply that the central bank's operations are the only important dynamic force at work. The factors which bring about changes in the community's desire to save¹ and to spend and in the degree of liquidity it wishes to maintain in its holdings of financial assets constitute basic underlying forces influencing credit conditions at all times. Monetary policy operates in the context of these underlying forces and in conjunction with the influence exerted by Government fiscal and debt management policies. The task of the central bank is to assess the nature and impact of all these factors and to decide whether in the circumstances it should allow them to be fully reflected in credit conditions, or whether and to what extent it should attempt to reinforce or mitigate their effect. Its decisions must, of course, at all times take into account and be influenced by balance of payments considerations and the need for the whole "mix" of policies to contribute to a sound external financial position.

¹In this submission the term "saving" is used to mean the net accumulation of financial assets.

22. Any substantial change in the demand for goods and services (or, to put it another way, in the desire to save) will of itself affect interest rates and credit availability. If the members of the community attempt on balance to step up substantially their rates of spending, the supply of securities and loan obligations offered in financial markets tends to increase relative to the demand for them, with resulting upward pressure on interest rates and perhaps reduced credit availability. To the extent that these spending plans are actually carried out, money incomes will rise and because of this fact people will want to hold among other things larger money balances on the average than they did previously. The increase in holdings of money will be desired in part to accommodate the increased volume of payments to be made, although this is by no means the only motive for holding money and the amounts actually held greatly exceed the minimum required for transactions purposes.¹ The attempt to acquire and maintain larger money balances will also put pressure on credit conditions unless offset by other factors. Conversely, attempts to reduce rates of spending on goods and services will tend to ease credit conditions.

23. In the preceding section of this submission reasons were given for believing that credit conditions can themselves be an important factor influencing the trend of total spending on goods and services. At the same time, the trend of total spending is (as indicated in the immediately preceding paragraph) an important factor influencing credit conditions. There is thus inter-action between the level of spending and credit conditions. Attempts to increase spending relative to income will tend to bring about some tightening of credit conditions, and the tightening of credit conditions will tend to feed back and moderate the growth in spending plans. Conversely a decline in the desire to spend will tend to ease credit conditions which will feed back to moderate the decline in spending plans. This inter-action between spending and credit conditions is stabilizing in character in that it limits the amplitude of fluctuations in the rate of total spending that would otherwise occur and helps to prevent them from becoming cumulative. In this sense it is a "built-in" regulator of the level of economic activity, but it must be recognized that at any particular point in time the stability achieved by undue reliance on this mechanism might be at a level of economic activity which was inconsistent with the broad economic objectives of the community.

24. Interest rates and credit availability may be affected, sometimes quite powerfully, by changes in the form

in which members of the community want to hold financial assets and owe debt. There are many different kinds of financial assets for people to hold, and one of the ways in which they differ widely is in terms of what is usually called their liquidity. At the liquid end of the spectrum is money itself, which can be used to buy goods and services or other financial assets at any time without any intermediate step and with no risk of loss of capital value measured in money terms. Other financial assets involve a larger element of risk to the holder because their conversion into money at some future date may involve difficulties or capital losses which cannot be foreseen. These other kinds of financial assets are less liquid than money in varying degrees, depending among other things on their term to maturity, the extent to which they are traded in organized markets and the credit standing of the debtor. Short-term assets, for example treasury bills or commercial paper, approach money in their liquidity in that they are usually readily convertible into money with little or no loss of capital value. Other types of financial claims such as long-term securities involve a much larger element of uncertainty; their conversion into money prior to maturity may involve a substantial capital loss or gain, and may in some cases be difficult or perhaps even impossible. Since most people are averse to risk and uncertainty, they will not normally hold these less liquid assets in preference to more liquid assets unless they receive a larger return. The public's aversion to risk and the degree of uncertainty about the future may vary from time to time, however, and the size of the "risk premium" for holding longer-term assets will vary correspondingly.

25. Shifts are continuously occurring in people's preferences as to the degree of liquidity which they desire in their financial asset holdings and their debts and these shifts have important effects on credit conditions. If, for example, a substantial number of people come to regard their holdings of money as being higher than they would like to see in relation to their holdings of marketable bonds they will attempt to use part of their money holdings to purchase bonds and in the process the prices of bonds will be bid up and interest rates will decline. Conversely, a strong feeling that the proportion of financial assets being held in the form of marketable bonds is too high may lead to an attempt on the part of the community to increase its money holdings by selling bonds and this will cause the prices of bonds to decline and interest rates to rise. The actual situation is likely to be a good deal more complex than these examples would indicate. There are in fact continuous shifts in preferences through the whole range of financial assets—money, close substitutes for money, other short-term financial assets and longer-term financial assets—and

¹For this reason, the relationship between the level of income and the size of money balances held i.e. the income velocity of circulation of money, can vary widely.

they affect the relative levels of short-term and long-term rates and the general level of interest rates. Such shifts may take place as a result of changing assessments of the economic outlook, or changing expectations regarding future trends in interest rates, security prices, credit availability and the purchasing power of money. To mention only one example, if a tightening of credit conditions, including a rise in interest rates, comes to be regarded as probable, a widespread tendency may emerge for investors to shift out of longer-term, higher-yielding assets into more liquid assets which offer greater protection against capital loss; this in itself will tend to bring about a rise in long-term interest rates. Liquidity preferences are always changing, usually only slowly, but sometimes quite rapidly, and their accommodation involves continuous adjustments in security prices and yields and in the type of financial assets available to investors. The ease or difficulty with which this accommodation can be achieved depends in part on the operations of banks and other financial intermediaries because they can alter the mix of financial assets available to investors. This process is described later in paragraphs 56 and 57.

26. The effect of changes in liquidity preferences on credit conditions has been described in terms of shifts that people try to make in the composition of their holdings of financial assets, but it is also the case that debtors can exert an influence on credit conditions by attempting to change the composition of their debt.

27. The Government's borrowing operations arising out of fiscal policy and debt management have an impact on credit conditions similar in kind to comparable operations by other debtors but they are usually so large in size as to be in themselves an influence important enough to merit special mention. Changes in the amounts of money which the Government raises through the sale of its securities (if it is in over-all deficit) or uses for debt retirement (if it is in over-all surplus) affect credit conditions through changing the total demand for credit in the economy. Changes in the maturity distribution of the Government debt affect credit conditions by changing the maturity distribution of the public's holdings of financial assets.

28. This section of the submission has referred to the way in which credit conditions are affected by changes in the community's desire to save and to spend and by changes in the community's liquidity preferences and has drawn attention to the importance of fiscal policy and debt management policy in affecting credit conditions. The next section outlines the way in which the central bank exercises an independent influence on credit conditions; this is introduced by a brief description of the role of cash reserves in the financial system.

D. The Central Bank and the Credit System

The Role of Cash Reserves in the Financial System

29. The central bank is the ultimate source of cash in the financial system. The Bank of Canada acquires financial assets—in practice chiefly Government securities—in exchange for its own obligations, namely Bank of Canada notes and deposit liabilities. The obligations of the Bank legally constitute the ultimate means of settlement in Canada; they do not have to be redeemed, nor need any reserve be held against them¹. Bank of Canada notes are legal tender—that is, they must by law be accepted in final settlement of debts—and Bank of Canada deposit liabilities are accorded the same status in practice since they are convertible into legal tender on demand, constitute legal cash reserves for the chartered banks, and serve as the medium for inter-bank settlements. So far as the public and the banks are concerned, the usefulness of Bank of Canada notes and deposits lies in the fact that, even though they do not bear interest and are not redeemable, they can always be exchanged for other financial assets or for goods or services, and their value in terms of the national monetary unit does not fluctuate. Subject to its overriding responsibility for conducting its operations in such a way as to promote the nation's economic welfare the Bank can, by varying the prices at which it is willing to buy or sell Government securities or other assets, determine the amount of its own liabilities (Bank of Canada notes and deposits) held by others.

30. The chartered banks also issue obligations, namely deposit liabilities, which are generally acceptable as means of payment in Canada, although they do not have the status of legal tender. These deposit liabilities are a form of book debt, in most cases subject in practice to transfer by cheque; such cheque payments provide the means of settlement for the great bulk of transactions in Canada. Banks are able to persuade the public to regard their deposit liabilities as the equivalent of legal tender by undertaking to convert them into legal tender on demand². In order to leave no doubt as to its ability to do so, each bank whether or not required to do so by law must maintain at all times substantial reserves of cash and liquid assets to meet net withdrawals of cur-

¹The Bank of Canada Act provides that Bank of Canada notes shall be redeemable in gold and that a gold reserve of at least 25 per cent shall be maintained against the Bank's outstanding note and deposit liabilities. The gold redemption requirement has been suspended each year since 1934 by order-in-council under section 22 of the Bank of Canada Act. The gold reserve requirement was withdrawn in 1940 by the Exchange Fund Order and this withdrawal was continued by subsequent legislation—since 1952 by the Currency, Mint and Exchange Fund Act—subject to reimposition by order-in-council.

²Or, in the case of time deposits, on some specified date in the near future.

rency or net settlements due to other banks arising out of the transactions of its customers. However, the size of these reserves does not need to be more than some fraction of the bank's total deposit liabilities since there is virtually no chance that its customers as a group will wish to withdraw any large proportion of their balances at the same time.

31. The chartered banks taken as a group can induce the public to acquire more of their deposits in exchange for securities or loan obligations if they offer sufficiently attractive prices or lending terms, but unlike the Bank of Canada they can only do so if they have cash reserves in excess of their minimum requirements. In Canada, each chartered bank is required by the Bank Act to maintain cash reserves in the form of Bank of Canada notes and/or deposits with the Bank of Canada equal on the average during each calendar month to not less than 8 per cent of its Canadian dollar deposits. The total amount of cash reserves available to the chartered banks as a group is determined by the Bank of Canada in a manner consistent with its general objectives in the field of credit policy.

32. Within the chartered banking system the ability of any one bank to increase its assets (including the necessary cash reserves) depends upon the extent to which it can, in competition with other banks, persuade the public to hold more of its obligations, i.e. its deposits. Competition among the chartered banks for the limited supply of cash reserves thus takes the form of competition for deposits chiefly by such means as providing better services, more convenient branch locations, etc.

33. The Bank of Canada and the chartered banks are not the only debtors in Canada who issue obligations which serve as money or close substitutes for money¹. Trust companies, credit unions, Quebec savings banks, and provincial savings offices also issue deposit obligations which can be transferred by cheque or redeemed on demand in legal tender or its equivalent. Moreover, a wide variety of short-term obligations offered by trust and mortgage loan companies, instalment finance companies and investment dealers—and indeed by governments and business corporations as well—provide the holder with interest-bearing claims which can be converted into money at early maturity dates (or even before maturity, if need be, with little risk of loss of capital value) and these compete with the deposits issued by chartered banks, especially time and notice deposits. The debtors who issue such obligations must also ensure that they have sufficient cash and liquid reserves to meet their obligations when due.

¹In this submission financial institutions other than the chartered banks whose liabilities serve as money or close substitutes for money are referred to as "near-banks".

34. The form in which cash reserves are held is not the same for all financial institutions. The chartered banks are required to maintain their cash reserves in the form of Bank of Canada notes and deposits with the Bank of Canada. The two savings banks that operate under the terms of the federal Quebec Savings Bank Act maintain part of their cash reserves in Bank of Canada notes, part in deposits at the Bank of Canada, and part in deposits at the chartered banks. Trust companies, mortgage loan companies, credit unions and finance companies hold some Bank of Canada notes but most of their cash reserves are held in the form of deposits with the chartered banks and some of them have lines of credit with the banks which can be drawn on to replenish their cash reserves if necessary. Regardless of the form in which its cash reserves are held, any particular financial institution can acquire additional cash without giving up other assets only if the public decides to hold more of its obligations. It can induce the public to acquire more of its obligations in exchange for legal tender or some other form of money if the terms it offers are sufficiently attractive, but it is unlikely to do so unless it is thereby enabled to acquire assets whose yield is sufficiently high to give it an adequate margin of profit over the additional costs it incurs.

35. The "near-banks" are not in exactly the same business as the chartered banks on either the lending or deposit side. The differences between them are differences of degree rather than kind. In the case of some institutions their business may resemble the banking business very closely, but in most cases the "near-banks" are not in the short-term lending or deposit business to anything like the same extent as the chartered banks even after allowing for absolute differences in size. Some accept demand deposits and operate chequing accounts for their customers but this is a relatively small part of their business as a group. Apart from personal loans, the same is true so far as the extension of short-term credit is concerned. Many "near-banks", such as the trust and loan companies, tend to hold a much higher proportion of their assets in the form of longer-term instruments such as mortgages and provincial, municipal and corporate securities; a relatively high proportion of their own obligations are in forms such as certificates and debentures which are somewhat longer in term and less liquid than savings deposit accounts.

36. Partly because of these differences, the rates of growth in the total assets and liabilities of the chartered banks and of the various types of "near-banks" show considerable diversity, although in a broad way their rates of expansion tend to accelerate or slow down together. A particularly strong demand for mortgage credit, for example, will especially favour the growth

of those types of "near-banks" which specialize in this field of lending; they will be able to charge a relatively high rate of return on their mortgage loans and thus be able to make the rate of return offered on their certificates and debentures sufficiently attractive to induce the public to increase substantially its holdings of these obligations. A particular type of lending institution may also display an unusually rapid rate of growth for a considerable period because it succeeds in developing new techniques or new fields of lending which enable it to compete more vigorously for the savings of the public.

37. In spite of the differing characteristics with which the chartered banks, the "near-banks" and indeed other types of financial institutions endow their obligations in order to make them attractive to the public, there is a sense in which all of them are in competition for the public's favour. The extent to which any one of these financial institutions is able to expand its share of the market depends largely on its success, in competition with others, in persuading the public to take up and hold its obligations on terms which leave a margin for the profitable employment of the funds obtained. The terms which it is able to offer to the public depend in turn on the yields available on the kind of financial assets which it wishes to acquire, and on the efficiency with which it conducts its operations.

The Repercussions of Central Bank Transactions on the Financial System

38. Subsequent paragraphs trace the mechanics and repercussions of central bank operations designed to bring about an easing or tightening of any given credit situation. It is convenient to make certain assumptions about the initial situation. It is assumed that, at the prevailing set of securities prices, interest rates and other terms and conditions applicable to particular types of financial claims, debtors are reasonably satisfied with the size and composition of their outstanding debt, investors are reasonably satisfied with the size and composition of their financial assets, and chartered banks and other financial intermediaries are reasonably satisfied that they have fully exploited whatever profitable opportunities are open to them to expand their holdings of the particular types of assets and liabilities they specialize in. In this situation, the chartered banks will have cash reserves equal to 8 per cent (or, since banks do not like to run too close to the line, very slightly more than 8 per cent) of their deposit liabilities. When the central bank takes action to increase the amount of its obligations outstanding, the chartered banks and other financial intermediaries which accept short-term funds are put in a position to expand their assets and liabilities. While any of these intermediaries may be in-

volved at any stage of the process this description will, in the first instance, be limited for purposes of brevity to the chartered banks alone. The description is greatly simplified; a fuller account of the working of the cash reserve system in practice appears in Submission III, *The Techniques of Monetary Policy*.

The Effect of Bank of Canada Operations on the Chartered Banks

39. Suppose that the Bank of Canada takes action to increase total cash reserves by purchasing \$8 million of securities from an investment dealer. This in itself may have some initial direct influence on Government security prices and interest yields in the same way as the transactions of any other participant in the securities market, but there are indirect effects on monetary and credit conditions as well. The investment dealer will probably take the Bank of Canada cheque to his chartered bank and when settlement takes place the cash reserves of that bank, and total cash reserves, will have increased by \$8 million. As a result of central bank action the position of a chartered bank has changed so that it now has on the asset side \$8 million more in cash reserves and on the liability side \$8 million more in deposits. The increase in the assets and liabilities of the chartered bank is not the end of the matter, however, because that chartered bank now has more cash reserves than it needs; in other words, it is in a position to increase its earning assets. It may invest most of the \$8 million, say \$7 million, in securities. When the chartered bank pays out the money for the securities it will lose cash reserves unless it happens to buy the securities from one of its own depositors who redeposits the money with it. But even if it does lose the whole \$7 million cash reserves, they are not lost to the banking system as a whole. The funds will be deposited at another chartered bank and that bank will find itself in a similar position to that of the first bank when it experienced an increase in cash reserves. Thus although there has been an increase of only \$8 million in the cash reserves of the system, chartered bank deposits have already risen \$15 million, and there still remain in existence more cash reserves than the banks as a group need. Assuming no other factors are at work to change the cash reserves of the system, this process of expansion of chartered bank assets and liabilities will continue until the expansion of deposits reaches the point where all the added cash reserves are needed to meet the banks' minimum legal requirements. Other things being equal, this will happen when total deposits have risen by \$100 million, so that the minimum cash reserve requirement of 8 per cent of deposits will have required the full \$8

million increase in cash reserves. The combined balance sheets of the chartered banks would have changed in the following way:

Change in Assets	Change in Liabilities
Cash reserves \$ + 8 million	Deposits \$ +100 million
Securities + 92 million	
Total Assets +100 million	Total Liabilities +100 million

The position of the general public would have altered as follows:

Holdings of securities	\$ —100 million (of which \$8 million went to the Bank of Canada and \$92 million to the chartered banks)
Holdings of bank deposits	\$ +100 million

The people who received the "new" bank deposits would in the first instance be those who gave up the securities in exchange. Some of the deposits will be held in current accounts and some in savings accounts, depending on the preferences of the holders.

40. Similarly, a decrease in cash reserves would cause chartered banks to reduce their holdings of securities or other assets in an effort to restore their cash positions, leading to a reduction in their total assets and total deposits and a corresponding change in the structure of the general public's financial assets and liabilities.

The Effect of Bank of Canada Operations on "Near-Banks"

41. Assuming that no change occurs in the relative attractiveness of chartered bank deposits as compared with closely competing liquid assets such as demand or time deposits, short-term paper, certificates, etc. issued by "near-banks", there is no reason to suppose that the public could be induced to add to its holdings of chartered bank deposits without adding to its holdings of these other types of liquid assets as well. At any stage in the process of expansion described in paragraph 39 some of the sellers of securities may prefer to acquire a deposit with, or a short-term note or certificate of, one of the "near-banks" rather than a chartered bank deposit. Even in the initial transaction with the Bank of Canada the seller of the \$8 million in securities might deposit the proceeds in a "near-bank", say, a trust company. This would not, of course, put an end to or interfere with the process of multiple expansion of chartered bank assets and liabilities outlined above since the trust company would deposit the Bank of Canada cheque for \$8 million with a chartered bank. The trust company would have added both to its deposit liabilities to the public and to its cash reserves, but since it too is a chartered bank depositor the chartered banks as a group would have experienced the same increase in their cash

reserves. If "near-banks" are successful in attracting funds from the public and finding profitable opportunities for acquiring the kinds of assets they specialize in they too will gain cash reserves and participate in the process of expansion as well as the chartered banks. To the extent that an expansion of total chartered bank assets and liabilities consequent upon an increase in cash reserves is accompanied by an expansion of those of "near-banks", the degree to which credit conditions ease will be greater than would otherwise have been the case.

42. It will be noticed that so far as any particular financial institution is concerned it cannot participate in the expansionary process until it acquires additional cash reserves as a consequence of its customers increasing their holdings of its obligations. Each financial institution is thus in constant competition with others to promote the holding of its obligations. Competition may take the form of providing higher yields on short-term obligations, or obligations with terms carefully tailored to the requirements of customers, or additional services or more convenient branch locations. If one institution is able to do these things more successfully than others it will gain cash reserves and be able to expand its assets even without the injection of additional cash into the system. If, on the other hand, a financial institution fails to place with investors increased amounts of its obligations in competition with other financial institutions it will not be able to increase its assets even though additional cash reserves are injected into the system by the central bank and a general expansionary process is occurring.

43. The foregoing rather mechanical and over-simplified example indicates how the injection of additional cash reserves by the central bank percolates through the system and induces one bank after another to increase its assets and liabilities until the full potential of the extra cash is used up, and how it is also likely to result in some expansion of "near-bank" assets and liabilities. As the expansion of the public's holdings of relatively liquid financial assets proceeds it is bound to have some effect on security prices, interest yields and credit availability since, unless investors' asset preferences change, they will not be willing to sell securities to financial institutions in exchange for more liquid claims unless they are offered higher prices for them. Further upward pressure on prices is likely to result as the sellers of the securities seek to reinvest the proceeds, at least in part, in other securities.

44. To summarize, the acquisition of Government securities by the central bank is accompanied by a direct increase in the cash reserves of the chartered banks (and likely also by an indirect increase in the

cash reserves of "near-banks") and this leads to a secondary expansion of the assets and liabilities of the chartered banks and also of the "near-banks". So far as the non-financial public is concerned, a larger proportion of its outstanding debt and financial assets will come to be held in indirect and less risky forms through intermediaries and a smaller proportion held directly. The initial purchase of securities by the central bank and particularly the secondary expansion of financial assets of the chartered banks and other financial intermediaries will tend to place upward pressure on security prices and downward pressure on interest rates. The liquidity of the public will have been increased. A reduction in its holdings of securities by the central bank has exactly the opposite effect.

The Response of Chartered Banks to Changes in Cash Reserves¹

45. In practice, of course, the process described above does not operate in anything like so simple or mechanical a fashion. In the over-simplified example used to illustrate the process of expansion of chartered bank assets and deposit liabilities it was assumed that the chartered banks responded to an increase in their cash reserves by purchasing securities. There are in fact a number of alternatives open to a chartered bank. If it feels it would like to add to its very liquid assets it may employ the additional funds in day-to-day loans to money market dealers which can be called for repayment at any time. Or the chartered bank may purchase treasury bills². If the chartered bank feels that its liquid asset position is high enough it may purchase short-term Government bonds or it may add to its net foreign currency assets. If short-term yields are relatively low it may purchase medium-term Government securities. If the chartered bank feels that its security holdings and its over-all liquid position are adequate for some time to come it will at some stage adopt a more aggressive lending policy. In practice, a bank cannot vary the amount of funds it puts into loans in the same smooth fashion as it can in the case of securities because its lending policy can only be made known to its hundreds of lending officers across the country through written instructions and consequently is likely to change less frequently and by larger degrees than it would if the bank's lending were concentrated in a few hands as its

securities operations are. In any case much depends on the borrower. For example, a bank might wish to increase its loans but if business is slow its customers might not see profitable opportunities for using additional bank loans.

46. The linkage between the central bank's monetary policy and the trend of bank loans is therefore quite loose in practice. The direct influence exerted by the central bank through the level of cash reserves is on the total assets and total liabilities of banks as a group, and the effect on the trend of their loans will be cushioned by changes in their holdings of more liquid assets. In a period when the demand for loans is weak an increase in chartered bank assets will take the form mainly of a build-up in their relatively liquid assets despite their growing capacity and willingness to lend. In a period when the demand for loans is strong and total bank assets are allowed to increase only moderately the banks will for a time respond mainly by selling securities in order to accommodate the increase in loans. Eventually, however, they may find it necessary to become more selective in their lending policies, because they will be reluctant to see their holdings of Government securities, their main reservoir of liquidity, decline beyond a certain point and because the strong demand for credit and the heavy sales of securities by banks will be accompanied by falling security prices and banks will be reluctant to incur the losses involved in security sales.

Cash Reserve Management in Practice

47. The illustration given above of the process of expansion of the assets and liabilities of banks and "near-banks" traced the changes that occur in response to an assumed increase in cash reserves brought about on the initiative of the central bank³. In practice, however, changes in total bank assets more often originate elsewhere, for example, in the demand for bank loans and

¹The matters discussed in paragraphs 45 to 49 are treated in considerably more detail in Submission III, *The Techniques of Monetary Policy*.

²By agreement with the Bank of Canada and among themselves each chartered bank maintains a minimum ratio of liquid assets in the form of cash reserves, day-to-day loans and treasury bills equal on the average each month to 15 per cent of its Canadian dollar deposit liabilities (calculated on the same statutory basis as for cash reserve requirements).

³Cash reserves may also at times be increased through standing arrangements that leave the initiative with the money market dealers or the chartered banks. When a bank has suffered a reduction in its cash reserves it will probably call day-to-day loans previously made to money market dealers and the latter, in accordance with existing arrangements, may come to the Bank of Canada and sell short-term Government of Canada securities to the Bank with an agreement to repurchase them within a short period. The effect on cash reserves is the same as in the case of an outright purchase by the Bank except that it is a temporary one. In other situations a chartered bank may come directly to the Bank for a short-term advance and this of course produces an immediate increase in the cash reserves of that bank. The minimum rate at which the Bank of Canada makes advances to the chartered banks or enters into purchase and resale agreements with money market dealers under these arrangements is called the Bank Rate. In order to encourage banks and dealers to try to raise the funds they want from market sources rather than the central bank, the Bank Rate is normally somewhat above the day-to-day loan rate as well as the 91-day treasury bill rate.

in the pressure of credit demands on financial markets generally, and the typical process is more accurately described as one in which the central bank has to decide whether and to what extent to respond to these developments. In a period when the demand for credit is strong and bank loans are rising rapidly, the central bank does not have to take any initiative to stimulate an increase in bank credit but it does have to decide how far it should go along in providing the cash reserves that would result in the increase in bank loans being accommodated through an increase in the total assets of the banks and in the "money supply" rather than through a reduction of the banks' more liquid assets. Similarly when the demand for loans is declining strongly the central bank has to decide on the extent to which this will be reflected in a decline in the "money supply" or an increase in the banks' more liquid assets.

48. Although it would be possible for the Bank of Canada, with its power to control the cash reserves of the chartered banks within narrow limits, to operate on the basis of a precise view about the appropriate trend, over some period, of total chartered bank assets (or of the "money supply", in the sense of currency outside banks plus chartered bank deposits), it does not in practice do so. The central bank is, of course, inevitably influenced in its judgments by developments in the "money supply", but it must also take a view of the kind of credit conditions that would seem to be appropriate in the light of the current and prospective state of the economy including the external financial position and it must be prepared within limits to use its control of cash reserves as the situation develops in whatever direction is necessary to try to bring about and maintain those conditions. This may mean that on occasion the Bank of Canada allows changes in its own and in total chartered bank assets to absorb pressures developing in financial markets rather than see credit conditions tighten or ease to an undesirable extent.

49. There is, of course, no formula by which the central bank can determine what are the most appropriate credit conditions or what level of cash reserves would bring them about. It must operate to a considerable extent by the method of successive approximation, constantly adjusting its operations in the light of all the evidence it can get, as it becomes available, about changing economic and financial conditions.

50. If the central bank is to conduct its operations in such a way as to contribute to the achievement of such goals as sustained growth in production and employment, stability of prices and a satisfactory external financial position, it is clear that it must have accurate, up-to-date information about the performance of the economy. This problem is common to all public economic policies.

It takes time to collect information; it is seldom possible to know in detail what the situation is at the time action must be taken. The availability of economic statistics has improved greatly but there are still some gaps, and some time lag must always be unavoidable.

51. With the existing lags in information the central bank often finds itself in a position where it must react to developments in financial markets without knowing for certain whether these reflect underlying trends in the economy or only short-run fluctuations in expectations which can cause important if temporary disturbances in markets.

52. Monetary policy must attempt to take account of a second important time lag—the period between the time when credit conditions change and the time when there is an impact on the economy. Some effects may be felt quite rapidly, as for example those on international capital flows, while others may take more time to work themselves out. Even after businesses and consumers become aware that the availability and cost of credit have changed they may still take a certain amount of time to make adjustments in their plans to spend or save. The central bank should therefore try to gear its policy to the economic situation as it expects it to be some time ahead, not necessarily as it is now or was at the last date for which adequate information is available. If the central bank waits, for example, until productive capacity is almost fully utilized and the price level starts to rise before it begins to follow an anti-inflationary policy, damage will be done before its policy begins to be effective. There is a similar problem around the time of a downward turn in the business cycle.

53. With the present state of information and methods of analysis it is not possible to be absolutely sure what the trend of economic activity will be even a few months ahead. As a basis for its operating decisions, the best the central bank can do is to reassess continuously the economic situation and outlook, to narrow down the range of probable trends as much as it feels it safely can and to become aware of any divergence between actual and expected trends as quickly as possible.

54. Certain problems of a technical nature arise in the day-to-day management of cash reserves, relating to the structure of the banking system and to the way in which the minimum cash reserve ratio is defined. These problems are discussed in Submission III, *The Techniques of Monetary Policy*.

The Nature of Central Bank Influence on Credit Conditions

55. This section considers in a more general way the role of banks and other intermediaries in the financial

process and how the central bank is able to affect credit conditions by influencing the scale of their operations.

56. The activity which goes on in financial markets may be thought of as a continuous effort on the part of borrowers, lenders and investors to achieve a structure of outstanding debt and financial asset holdings which is mutually satisfactory in respect both of liquidity and yield, given the circumstances and prospects of the time. Individuals, businesses and even governments (in some degree) are limited in the extent to which they can directly match off among themselves the types of debt some are willing to supply and others are willing to hold. Situations constantly arise in which a substantial part of the demand for funds comes, for example, from individuals wishing to incur long-term mortgage debt in order to finance the purchase of new homes, while a substantial part of the supply of funds comes, say, from business firms wishing to invest temporary surpluses in short-term securities. Much of the debt which borrowers want to incur involves risks of default or limited saleability or capital loss on disposal which are either too high or too difficult to ascertain to attract many lenders even at high interest rates. Financial intermediaries such as banks, finance companies, trust and mortgage loan companies, credit unions, life insurance companies and pension funds, however, can pool the particular risks of individual debts in large and varied portfolios which have relatively low and predictable risk characteristics. These intermediaries operate by acquiring financial claims on ultimate borrowers of the kinds which suit the borrower's requirements and issuing financial claims on themselves, in a wide variety of different and specialized forms, to meet the portfolio needs of ultimate lenders or investors. They are essentially dealers in debts, who take up from the public substantial amounts of relatively long-term, illiquid, unmarketable or risky claims such as mortgages, bonds and consumer debt and issue in their place claims such as currency, demand and time deposits, investment shares and certificates, life insurance and pension claims. The claims so issued generally offer greater liquidity, marketability, security of capital value or usefulness for specialized savings purposes than the corresponding assets acquired by the intermediaries concerned. The efficiency in borrowing and lending and diversification of risks which large scale operation permits enables these institutions, within certain limits, to offer the lender a better return on his investment, consistent with the risk he is willing to take, and to charge the borrower a lower cost on his borrowings, consistent with the conditions he is willing to undertake, than either could secure on his own, while still leaving the intermediaries some margin of profit for performing their function.

57. Other things being equal, the larger the proportion of money and near-money claims to riskier, longer-term, less liquid or less readily marketable debt instruments in the portfolio of financial assets held by consumers and business the lower will be the level of interest yields and the easier will be credit conditions. It is the ability of the central bank to stimulate or restrain the "manufacture of liquidity" through the conversion of private and public debts into money or near-money claims by the commercial banks and other intermediaries which gives the central bank its influence over the availability and cost or return on funds in financial markets.

58. The trend of the "money supply" and changes in the size and composition of chartered bank assets are thus seen to be of major concern to the Bank of Canada not as ends in themselves, but rather as the means through which it can exert an influence on all those factors which affect the willingness and ability of ultimate spenders, directly or through recourse to financial intermediaries, to incur debt or part with financial assets in order to exercise command over goods and services. The relevant factors include the levels of interest rates on loans and deposits of various kinds, the prices and interest yields of securities, the amounts of particular types of financial claims owed and held by particular groups in the economy and by banks and other financial intermediaries. It is the continuing responsibility of the central bank to appraise and re-appraise the changing liquidity position of financial institutions and the public in the light of factors such as these, and in the light of the over-all economic situation to exert an independent discretionary influence of its own through the operations which it conducts. The decisions to be made by the central bank concern the degree to which it can appropriately attempt to offset or reinforce such other influences as are affecting credit conditions at the time.

E. Some Practical Considerations in Monetary Policy

59. Monetary policy is a useful instrument in practice principally because it can exert an important influence on credit conditions in the direction judged to be appropriate in the economic circumstances. In the first section of this paper reference was made to the broad objectives of economic policy and these were taken to include sustained economic growth at high levels of employment and efficiency, internal price stability and a sound external financial position, and considerations of economic equity and freedom. It was stated that these were also the broad objectives of monetary policy. Central banks feel a particular obligation for seeing that in the consideration given to the proper "mix" of public policies adequate emphasis is at all times placed on price stability,

that is, on the preservation of the purchasing power of money; being in a position to exercise an influence on the volume of money, they must inevitably be concerned with its value.

60. The position of the central bank would be extremely difficult if there were, as is sometimes asserted, a basic incompatibility between price stability and sustained economic growth. Fortunately there does not appear to be any such basic incompatibility and there are not adequate reasons for supposing that a proper concern for preventing erosion in the value of money will jeopardize the chances of achieving sustained economic growth and other policy objectives. On the contrary, it seems likely that economic growth at high levels of employment and efficiency can be more readily sustained under conditions of reasonable price stability than with substantially rising prices. It has been the experience of many countries that inflation impairs the efficient performance of the economy and progressively undermines its ability to maintain a high rate of employment and productivity and to keep its balance of payments in a sound condition in a competitive world. Moreover, considerations of equity argue strongly in favour of price stability, for inflation is widely regarded as being very unjust in its effects. The central bank's concern with preserving the value of money is not in conflict with or a limitation on the constructive use of monetary policy in pursuit of the community's economic objectives.

61. Monetary policy has certain advantages over some other types of public policies which are directed towards influencing economic activity. One advantage is that it can be adjusted almost from day to day, whereas policies affecting public expenditures, taxation, and debt management are less flexible. Another advantage is that it involves no direct intervention by Government in the plans of individuals and businesses, provinces and municipalities; no one of these, nor any group of them, nor any particular kind of activity is singled out for attention. The central bank operates only at the centre of the financial system—the Government securities market and the cash reserves of the chartered banks—and it relies on the impersonal functioning of financial markets to transmit the effects of its policies through the rest of the economy.

62. Control over the cash reserves of the chartered banks gives the Bank of Canada control over the total assets and total deposits of the chartered banks as a group, but at the same time it leaves the chartered banks, which are privately-owned, free to compete among themselves for banking business. Each bank can, by competing for deposits, attempt to gain as large a share as possible of the total cash reserves made available by the Bank of Canada to the banks as a group. The central bank has no power over the distribution of chartered

bank assets; it controls indirectly only the total for banks as a group. Subject to the statutory 8 per cent minimum cash ratio and the agreed 15 per cent minimum liquid asset ratio, each bank decides for itself what proportion of its assets it will hold in the various categories, how much it will put into loans and to whom it will lend. Each bank may if it wishes alter the distribution of its assets, for example, by selling securities and making more loans. Anyone who is refused a loan by one bank is free to apply to one or all of the others. In this system the distribution of bank credit is a matter which is entirely worked out between the chartered banks and their customers. The central bank has no power to direct the chartered banks, or any other financial institutions, to lend, or not to lend, to any person or business or government, or in any region and it has no power to establish direct regulation of credit. Its powers are largely confined to controlling the total cash reserves of the chartered banks. It enables the public sector to exert an influence on general credit conditions while leaving the banking business and other financial business to be run by the private sector of the economy.

63. The corollary of the fact that the impact of monetary policy on any particular unit or group in the economic system cannot be controlled or indeed even precisely forecast, may however be regarded as a disadvantage where specific rather than general measures seem necessary. Since the operations of the central bank in the sense of cash reserve management can exert only a general influence on over-all credit conditions it cannot deal with the special problems of particular industries and regions.

64. The influence of central bank action is transmitted through the economy by financial markets, and if financial markets worked perfectly the effect on different groups in the economy would be reasonably even. In actual fact, because of certain rigidities and imperfections in financial markets and because of certain tax arrangements, the effect of changes in credit conditions on the various categories of potential borrowers is often quite uneven—so uneven that if credit conditions were allowed to become too extreme the results might become intolerably inequitable.

65. One example of the potentially uneven effect of changes in credit conditions relates to the case of relatively small borrowers. While both large and small businesses borrow from the chartered banks, only the larger ones have the alternative open to them of obtaining money by offering new issues in the securities markets. If chartered banks did not feel a special concern for making adequate credit facilities available to credit-worthy small borrowers at all times, these borrowers

would have great difficulty on occasion in obtaining their credit needs. Even in the case of larger borrowers the effect of changing credit conditions may be quite uneven because some can obtain funds from outside Canada, from parent or affiliated companies or from foreign securities markets, while most, in terms of numbers, are limited to Canadian sources of funds.

66. If central bank operations are to have a relatively uniform effect throughout the economy, there must be a sufficient diversity of financial institutions which specialize in meeting the needs of particular categories of borrowers.

67. The effects of central bank operations may be uneven if there are certain interest rates which are not flexible, whether because of legal restrictions or institutional practices. Funds made available at rates of return below market levels will be limited in total and this will tend to discriminate in favour of those who can obtain loans at this rate as against those who cannot, and especially against those in the latter category who have no alternative source of funds.

68. Tax arrangements may give rise to some of the unevenness in the impact of changes in interest rates. Since the interest cost of borrowed money to corporations is an expense and therefore deductible from taxable income, a substantial part of any rise or fall in such costs to the corporation is often regarded as being offset by changes in tax liabilities. By contrast, provincial and municipal governments and others, including those who borrow through mortgages to finance owner-occupied housing, feel the full effect of any rise or fall in the cost of their borrowing.

69. Another problem is that not all groups in the economy respond in an "economic" way to changes in credit conditions. It is clear, for example, that consumers are rather insensitive to changes in the cost of consumer credit. It is also clear that many people do not bother to look for ways to maximize the return on their savings even allowing for their liquidity requirements. It is probably also the case that many corporations do not try to maximize the return on temporary surplus funds although many of the larger ones have become quite active in this respect.

70. In addition to the difficulties associated with the uneven impact of changes in credit conditions there are other reasons why there must be limits to the extent to which the level of interest rates can be allowed to rise or fall and the extent to which credit rationing can be allowed to become more stringent or less so. One of these reasons is the effect on financial markets themselves. Financial markets, particularly securities markets,

are similar to other markets in that everyone expects a certain amount of price fluctuation in response to changes in demand and supply. There must, however, be some limit to the degree of price fluctuation which financial markets can be expected to sustain if they are to function efficiently and if the general public is to continue to be willing to acquire and hold marketable financial assets, other than very short-term claims, on a large scale.

71. Another consideration which has implications for the use of monetary policy is the country's external financial position. Views that may be formed from time to time regarding the monetary policy that is appropriate in the circumstances will be influenced by the level and trend in the foreign exchange reserves as well as by internal developments.

72. For the reasons which have been outlined above an important consideration in the use of monetary policy is that if there were excessive reliance on this instrument the desired effect on the level of spending could, in some circumstances, involve tighter credit conditions than would in fact be tolerable. Apart from the specific difficulties which have been mentioned, it is only realistic to recognize that credit conditions can become too extreme to be accepted by the public—in the same way that tax rates can become too high. Monetary policy—like fiscal policy—is dependent in the end on a reasonable degree of public acceptance.

73. The fact that monetary policy is subject to these limitations may tend to inhibit the central bank to some extent when a policy of ease is appropriate because it will be very conscious of the limitations which it will face in attempting to keep the more liquid situation under control later on. This may be particularly true if it feels that the possibility of the reappearance of inflationary pressures is not too remote, and if it is not confident that adequate support from other public policies will be forthcoming at that stage.

74. A monetary policy of extreme ease may under certain conditions be subject to the possibility of perverse reactions in financial markets. Because of the association by investors of large-scale monetary expansion with inflation during the war and post-war period in many countries, extreme monetary ease might at some stage cause a loss of confidence in the purchasing power that long-term bonds would command when they matured. Another possibility is that investors might come to feel that bond prices could rise no further, and would fall sharply sooner or later if the higher liquidity was to be kept under control. In such circumstances investors might lose interest in buying or holding long-term bonds, thereby exerting an influence on interest rates opposite in direction to that of the monetary expansion.

75. In summary, the job of monetary policy is to assess the nature and impact of all the factors bearing on credit conditions and to decide whether in the circumstances it should allow them to be fully reflected in credit conditions, or whether and to what extent it should try to reinforce or mitigate their effect. In any set of circumstances there are limits to the range within which it is practical for monetary policy to allow or encourage credit conditions to vary, but within the range it can

influence credit conditions in the direction appropriate in the circumstances. Its influence will be most effective if monetary policy and fiscal and debt management policies are closely co-ordinated. While monetary policy cannot carry the whole burden of the job of regulating the general level of spending in the economy and maintaining a satisfactory external financial position, it can in combination with other public economic policies make an important contribution.

APPENDIX

STATEMENT BY THE GOVERNOR OF THE BANK OF CANADA ISSUED AUGUST 1, 1961

I have been greatly encouraged by the many public expressions of goodwill which have appeared since the announcement of my appointment as Governor of the Bank of Canada. I have decided to make public at this time my views on certain matters connected with the administration of this office. These views had been made known to the Directors and to the Government in the following form when my appointment was being considered.

I believe that it is essential that the responsibilities in relation to monetary policy should be clarified in the public mind and in the legislation. I do not suggest a precise formula but have in mind two main principles to be established: (1) in the ordinary course of events, the Bank has the responsibility for monetary policy, and (2) if the Government disapproves of the monetary policy being carried out by the Bank it has the right and the responsibility to direct the Bank as to the policy which the Bank is to carry out.

The first principle is designed to ensure that the Bank has the degree of independence and responsibility necessary if it is, in the language of the Bank of Canada Act, "to regulate credit and currency in the best interests of the economic life of the nation". To discharge this duty the Bank must be sufficiently independent and responsible in its operations to be able to withstand day-to-day pressures from any source. But in the longer run, if there should develop a serious and persistent conflict between the views of the Government and the views of the central bank with regard to monetary policy which, after prolonged and conscientious efforts on both sides, cannot be resolved, the Government should be able formally to instruct the Bank what monetary policy it wishes carried out and the Bank should have the duty to comply with these instructions. The exercise of this authority by Government would place on Government direct responsibility for the monetary policy to be followed. If this policy, as communicated to the Bank, was one which the Governor felt he

could not in good conscience carry out, his duty would be to resign and to make way for someone who took a different view.

Amendments to the Bank of Canada Act would presumably be required to deal with these points. If, however, it were agreed that the respective responsibilities should be of the general character I have indicated, there should be little difficulty in regard to the precise nature and timing of the necessary changes.

I wish, secondly, to place on record some of my views on the way in which monetary policy fits in to other public policies affecting the economic and financial welfare of the nation. I take it that the broad aim of the community is to attain, to the maximum extent possible, certain generally accepted objectives: high level employment, price stability and sustained economic growth. A flexible monetary policy is an essential element in the total blend of policies directed to these ends. In a situation characterized by large unemployment and unused capacity, monetary policy should be directed to encouraging the use of credit. On the other hand, if the economy is approaching a condition of full stretch, policy should be directed towards discouraging the use of credit.

Too much reliance on monetary policy either as a restraining or a stimulating factor would, however, lead to unsatisfactory self-defeating results. If one were to try to control the excesses of a boom period through monetary policy without adequate support from appropriate fiscal, debt management and other economic policies of Government, one would run the risk of creating great strains in the financial system in the form of intolerably high interest rates and disorganization in capital markets. On the other hand, the precise part that monetary policy can appropriately play in stimulating economic expansion is necessarily influenced by the part being played by the concurrent fiscal, debt management and other economic policies of Government. The central bank has an important part to play in influencing

the trend of interest rates in a direction appropriate to the economic situation. But an attempt on its part to impose a level of interest rates which appeared unrealistic to the market would impair confidence in the value of the currency and present a serious obstacle to the orderly flow of funds through the capital market.

What is said in the previous paragraph is not meant to deprecate the contribution that monetary policy can make towards attaining the broad economic objectives of high-level employment, price stability and sustained economic growth. On the contrary, it is meant to underline the need for a careful and consistent meshing together of all the various aspects of financial policy and general economic policy in the effort to attain these objectives while avoiding undue strains in particular sectors. In particular, since monetary policy, fiscal policy and debt management policy are interdependent and to some extent inter-changeable, there has to be a high degree of coordination to ensure that the blend or "mix" of these policies is purposefully directed towards attaining the over-all economic objectives of the community.

The views expressed above regarding the respective responsibilities of Government and Bank for monetary policy and the need for close coordination of monetary, fiscal, debt management and other economic policies point to the great importance of close and continuous contact between the Bank and the Government. I shall wish to play my full part in achieving the close working relationship with the Minister of Finance which is indispensable if the Bank is to discharge its responsibilities in a satisfactory way. I would hope to have frequent contacts with the Minister of Finance of the same character as I have had over the past years in my capacity of Executive Director of the International Monetary Fund and International Bank. In addition, in order to ensure beyond doubt that continuing high importance is attached to maintaining lines of communication, and even though such precaution may now seem unnecessary, consideration should be given to setting up a routine procedure for regular meetings at fairly frequent intervals between the Minister of Finance and the Governor.

May 31, 1962

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III—THE TECHNIQUES OF MONETARY POLICY

A. General Considerations in the Choice of Techniques

Introduction

1. This submission deals with some of the technical aspects of central bank operations in Canada¹. Before these are discussed in detail it may be useful to refer to some of the broader issues involved.

2. In our submission on *The Role of Monetary Policy* we stated that in our view one of the main responsibilities of the central bank is to exert an influence on credit conditions, the appropriate direction and magnitude of which will depend on all the other influences at work in financial markets and on the central bank's view of the current economic situation. By "credit conditions" is meant the whole range of terms and conditions affecting borrowing and lending and the purchase and sale of financial assets.

3. The main technical basis for the central bank's ability to influence credit conditions lies in the fact that its liabilities have the status of legal tender and serve as cash reserves for the commercial banking system. It can buy or sell assets such as Government securities in such amounts as it considers appropriate and in this and other ways increase or decrease the banks' cash reserves, and so stimulate or restrain the expansion of the commercial banking system. This basic technique can be used in different ways, some of which have much more direct and detailed effects on the prices and yields of Government securities than others. There are also a number of supplementary techniques which can be used to exercise a direct influence on the availability of credit through particular institutional channels or for particular purposes. These depend on persuading or requiring lenders to observe certain rules in the allocation of funds at their disposal. Some of these techniques have a much more direct and detailed impact on the normal functioning of lending institutions than others.

4. There are many possible combinations of methods by which a central bank can seek to exert its influence on credit conditions and central banks differ considerably in their general operating approach, partly because the structure of the financial system differs from country to country. Few central banks rely exclusively on a single approach; most prefer to use a variety of operating techniques, depending on the circumstances of the

time. To provide some indication of the various approaches open to a central bank, several broad alternatives are outlined below in paragraphs 5-15; each is described in rather extreme form to bring out clearly its essential features. The general approach preferred by the Bank of Canada is then described in paragraphs 16-17.

Influencing Credit Conditions Indirectly Through Variations in Cash Reserves

5. At one extreme, the central bank would try to influence credit conditions exclusively through the mechanism of cash reserve management and would try to avoid any action which might have a direct impact on interest rates except at the very short end of the market for Government securities. With the chartered banks operating on the basis of reasonably stable cash ratios, variations in the supply of cash reserves would be expected to initiate a chain of institutional and market responses whose ultimate effects on the cost and availability of credit would be broadly in line with the central bank's general objectives, although neither predictable nor controllable in detail. If the central bank wanted to exert its influence on the side of ease it would be more liberal in providing cash reserves. More plentiful cash reserves would tend to stimulate a secondary expansion of the assets and liabilities of banks and other credit institutions, inducing them to add to their investments and loans with a corresponding increase in their deposit liabilities to the public. In the process of acquiring increased holdings of securities and loan obligations in exchange for their deposit liabilities, the institutions involved would tend to push down interest rates, or limit the rise which would otherwise occur in a period of strongly expanding economic activity. Market mechanisms would be relied on to spread this influence to yields on securities of all types and maturities, and also at some stage to affect the non-price terms of access to credit stipulated by banks and other institutional lenders. If the central bank wished to exert its influence on the side of restraint it would work in the opposite direction.

6. A major advantage sought by this approach is that the market is given as much freedom as possible, within the general environment influenced by the cash reserve management of the central bank, to place its own valuation on the securities issued by the Government. The central bank would not be seeking to impose any particular view regarding the appropriate structure of interest rates; it would be confining its operations in Government securities to the very shortest maturities.

¹A simplified description of the existing cash reserve system and the mechanics of changes in the level of cash reserves resulting from changes in the various asset and liability items on the Bank of Canada's balance sheet is given in a note appended to this submission entitled *The Control of Chartered Bank Cash Reserves by the Bank of Canada*.

Indeed, it might even be able at many times to bring about desired changes in cash reserves without entering the securities market at all, through a number of techniques which will be discussed later.

7. Such an indirect approach would enable the central bank to exert a broad general influence on credit conditions. It would provide little control over the precise timing or detailed character of the resulting changes in interest rates and institutional lending and investment policies, but it would leave a great deal of leeway for the interplay of private decisions in working out the detailed pattern of interest rates, credit allocation, and the distribution of assets held by financial institutions and the public.

Influencing the Level and Structure of Interest Rates Directly

8. At the other end of the spectrum, the central bank might, through its open market operations, seek to influence the level and structure of interest rates directly. The central bank might proceed by establishing the prices or effective interest yields at which it would be prepared, for the time being, to buy or sell Government securities of various maturities. In the light of market and institutional responses and the trend of economic events it would from time to time alter these prices. In effect, the central bank would try to bring about desired changes in certain key interest rates in the system directly and rely on market mechanisms to ensure that these were accompanied by appropriate changes in the cost of credit and in the other terms and conditions faced by potential borrowers.

9. Under a regime of this kind, changes in the amount of cash reserves held by the commercial banking system would become a by-product rather than a focal point of the central bank's open market operations. So long as the central bank maintained a particular set of buying and selling prices for various issues of Government securities, downward or upward pressure on these price levels would encounter the direct resistance of central bank purchases or sales, and, because of the consequent effects on the supply of cash reserves, the indirect resistance of credit expansion or contraction on the part of private financial institutions. It seems clear that under this method of operation the fluctuations in the total assets and liabilities of the banking system would be greater than under the first approach described in this submission.

10. Such an approach would require the virtual fusion of monetary policy and debt management operations. The present system of offering specified amounts of treasury bills for sale by auction and of new issues of Government bonds for public subscription would not

appear to be consistent with an approach of this kind and the logic of this approach would seem to involve changing the present system to one of tap issues of various maturities.

11. An undesirable consequence of this extreme approach would be to obscure the influence of the many powerful domestic and international forces which are constantly at work in financial markets. Changes in the market prices of Government securities would appear on the surface to be merely the result of central bank action and this would make it much more difficult for the central bank to follow a flexible monetary policy. Moreover, the attention of dealers and investors would tend to concentrate on anticipating the next move of the central bank, and continuous short-run speculation rather than the appraisal of the underlying forces at work might well become the dominant activity in the Government securities market. The central bank would have a particularly difficult problem of coping with undesirable de-stabilizing shifts in market expectations generated by its own actions.

Influencing the Availability of Credit Directly

12. Both the approaches mentioned above rely heavily on market mechanisms and the profit-maximizing responses of institutions to transmit the effects of central bank action to all points of the credit system, the assumption being that both the cost and the availability of credit will tend to be affected and that it is desirable that both work together in influencing the demand for goods and services. In unusual circumstances, however, it may be a legitimate object of policy to aim specifically at influencing the availability of credit without necessarily affecting its cost to any important extent. The kind of measures used would depend on how extensive an influence was deemed necessary.

13. A minimal approach would be, in special circumstances, to try to exert some quantitative influence on the loan expansion of the chartered banks. For competitive reasons the chartered banks may on occasion, even in the face of a persistent decline in their holdings of liquid assets and Government bonds, delay adjustments in their lending policies longer than would be desirable from the point of view of containing excessive demands for credit. If there were pressing reasons for seeking an immediate impact on the availability of credit, it might be desirable for the central bank to be able to hasten the adjustment of lending policies by impounding some of the reserve liquidity of the chartered banks. Or it might be desirable on occasion to try to stimulate bank lending by releasing liquidity. The techniques used for this purpose in various banking systems include variations in prescribed cash reserve or liquid asset ratios

applicable to the banks or the calling up or releasing of special deposits maintained by these institutions at the central bank. Under these procedures, the qualitative decisions regarding the detailed allocation of credit would continue to be left to the judgment of the chartered banks themselves.

14. A much more far-reaching approach would be to aim at exercising, through central bank efforts or Government controls, a detailed and selective influence over the lending policies of a wide range of institutions, in respect for example of consumer credit contracts, mortgage contracts, offerings of new issues in the capital market and stock market credit.

15. If the chartered banks and other lenders could be persuaded or required to ration their loans more stringently or selectively, it is conceivable that a significant number of unsuccessful borrowers would refrain from pressing their demands for credit through alternative market channels, either because of the expectation of being refused, or on account of the additional cost or difficulty of borrowing elsewhere, or out of inertia. To this extent the credit expansion would be moderated with a smaller rise in interest rates than would otherwise occur. Measures of this general character, if used vigorously, could produce rapid and perhaps substantial changes in the availability of credit. Experience shows, however, that financial markets and institutions can in time adapt themselves to barriers to the flow of credit; if particular channels of lending are obstructed they are likely to be circumvented as alternative indirect channels are created.

The Approach of the Bank of Canada to Monetary Management

16. In general the approach of the Bank of Canada to monetary management is much closer to the first method described in paragraphs 5 to 7 (i.e. influencing credit conditions indirectly through variations in cash reserves) than to any of the others. It is the view of the Bank of Canada that its responsibilities can best be discharged under arrangements which give the securities market and private lending institutions the maximum scope to perform their important functions in determining the terms and allocation of credit, and that central bank operations should leave as much room as possible for the exercise of private judgments in these matters. In most circumstances the aims of public financial policy can be pursued effectively without the central bank intervening in the Government securities market on a broad front with precise objectives for bond prices and interest rates, and without resorting to regulations or pressures designed to influence the allocation of credit in particular ways or through particular channels.

17. At the same time, the Bank of Canada feels that the techniques available to it should give it enough flexibility to discharge its responsibilities as circumstances may require. For example, in situations where the need arises to combat disorderly conditions in securities markets, or where a change in interest rate differentials between Canada and the United States is a matter of urgent importance, or where there is need for particularly close co-ordination with debt management operations, it may be desirable for the Bank to conduct limited open-market operations in mid-term or long-term securities; and it would not be desirable or practical for formal limitations to be imposed on the Bank in this respect. Similarly, it would seem unwise to rule out the possibility of invoking more direct measures to control the availability of credit in an extreme situation. In certain circumstances, as has been indicated in our submission on *The Role of Monetary Policy*, there are limits to the extent to which and the rapidity with which interest rates can be allowed to rise, and there may therefore be times at which it is preferable to vary the cash reserve or liquid asset ratio or resort to moral suasion or selective credit controls than to allow the inflationary process to proceed without further resistance.

B. Cash Reserve Management and Open Market Operations

Methods of Affecting Cash Reserves

18. There are a great many channels through which a central bank can inject cash into the banking system or withdraw it, and a great variety of assets that it can acquire or give up in exchange. As a practical matter, however, there are great advantages to limiting cash management operations to relatively few channels and relatively few types of financial assets, and to relying largely on market mechanisms to transmit the effects of central bank operations to other areas of the financial system. A central bank can exert a pervasive effect on credit conditions even though the direct effects of its operations are confined to the cash reserve position of the commercial banks and to the market for short-term Government securities.

19. In some countries the central bank provides cash reserves mainly by making advances to banks secured by commercial bills or similar private obligations or by discounting such paper. In earlier periods central banks dealt in private obligations to a considerable extent, no doubt partly because of the relatively small supply of government paper. In recent decades, however, and particularly since the Second World War, the size of the Government debt in the form of outstanding securities has made it both feasible and convenient for central

banks in most countries to conduct their operations mainly in Government securities. So far as the Bank of Canada is concerned, Government of Canada securities have a number of advantages. They are available in a broad range of maturities and their value at maturity is guaranteed by the Government. They are widely held and traded by banks, other financial institutions, investment dealers and the general public. By operating in such securities the central bank is able to co-ordinate its own operations closely with those related to the management of Government debt.

20. The Bank of Canada has the power to buy and sell gold and foreign exchange but in practice it does not deal for its own account in gold at all and its dealings in foreign exchange for its own account, as distinct from those undertaken as agent for the Government, have been on a small scale in recent years.

21. The Bank of Canada purchases securities of the Industrial Development Bank as a means of providing funds to that institution but its purchases of such securities do of course have cash effects which must be taken into account in the central bank's ordinary cash management operations.

22. Within the range of financial transactions engaged in by the Bank of Canada there are many different ways of injecting or withdrawing cash. Some have a direct impact on the securities market while others do not and the choice of methods adopted by the central bank will depend in part on the nature of the impact sought. In some cases the Bank may achieve its cash reserve target without taking any initiative at all; for example, a decision not to offset a seasonal decline in note circulation in the hands of the public can bring about an increase in the chartered banks' cash reserves. Cash reserves may be affected by temporary variations in the Government's deposit balance at the Bank of Canada (as explained in the appended memorandum). For example, a running down in the Government's deposit balances at the Bank in a period when the expenditures of the Government exceed its receipts injects central bank cash into the commercial banking system without passing through financial markets at all. This is also the case when part of the Government's deposit balance at the Bank of Canada is, with the concurrence of the Government, transferred to the Government's deposit accounts with the chartered banks. Other variations of this technique are possible. For example, the Bank of Canada might buy Government securities from the Securities Investment Account of the Government and the proceeds, after being credited to the Government's deposit account at the Bank, might be transferred to the Government's deposit accounts at the chartered banks. Or the Bank might buy foreign exchange from the Government and the Canadian

dollar proceeds might be handled in the same way. The transfer of profits from the Bank of Canada to the Government provides another opportunity for affecting cash reserves; in recent years the Bank has transferred its annual profits to the Government in instalments during December and these funds, after being credited to the Government's deposit account at the Bank of Canada, have been transferred to the Government's deposit accounts at the chartered banks, thus offsetting the effect on cash reserves of a seasonal rise in note circulation. None of these methods has any direct impact on the securities market; the market influence is first felt when the chartered banks react to the resulting increase or decrease in cash reserves. There are of course limits to the use of Government deposit transfers imposed by the amount of the available Government balances and their distribution as between the Bank of Canada and the chartered banks and by the desire of the Government to maintain working balances of reasonable size with the chartered banks at all times. In the main, transfers of Government funds between the Bank of Canada and the chartered banks—draw-downs and re-deposits—are undertaken to prevent the uneven flow of Government receipts and expenditures from affecting the level of cash reserves rather than for the purpose of changing the level of cash reserves.

23. Changes in its holdings of Government securities are the main technique by which the central bank affects cash reserves or offsets the effect of other factors, except on a very short-run basis. The Bank of Canada's holdings of Government securities can change as a result of the direct purchase of a new issue from the Government, or as a result of the repayment at maturity of an outstanding issue held by the Bank (including the issue and retirement of treasury bills at the weekly tender), or as a result of direct transactions with Government accounts as already indicated, or as a result of purchases and sales in the open market. Central bank operations in the open market, like security transactions conducted by others, are bound to have some direct impact on market prices and yields, though the magnitude of such impact cannot be measured at all precisely. Broadly speaking, the shorter the term of the security (i.e. the closer it is to the cash for which it is being exchanged) the smaller the direct impact. To take an extreme example, the purchase of a bond maturing the next day could be expected to have practically no direct impact on prices in the market. Due to the rapid development of the money market in recent years it is likely that the Bank's transactions will be a smaller proportion of total market transactions in the securities involved if they take place at the short end of the market. In carrying out open market operations to provide or withdraw cash reserves

the Bank of Canada usually, though not always, chooses to deal in relatively short-term securities in order to minimize the direct impact of its transactions on the market. This approach is in keeping with the Bank's normal preference for trying to achieve its objectives indirectly (that is, mainly through bringing about changes in the cash reserves of the chartered banks and letting the responses of banks and others to this change work themselves out in the markets for various types of financial assets) and with the Bank's desire to encourage the development of broad, self-reliant markets for Government securities.

24. The central bank can normally rely on the changes in chartered bank assets and in the "money supply" which result from its cash management to exert an influence on credit conditions in the appropriate direction. This influence is broad rather than precise. Chartered banks hold their liquidity mainly in the form of money market assets (day-to-day loans, treasury bills and short-term Government bonds), and their initial response to changes in cash reserves is generally to add to or reduce these assets. Consequently, the immediate effect of chartered bank responses to changes in cash reserves is in the short-term area of the securities market and in short-term yields, although over a longer period bank lending policies may be affected. The influence of the chartered banks' purchases or sales of securities will, of course, tend to spread to a certain extent through the whole range of maturities as investors adjust their portfolios in response to yield changes and to the shift which has taken place between short-term securities and bank deposits. Many investors and borrowers, though by no means all, are able to shift their securities holdings or borrowing between the short-term area of the market and the long-term area. Consequently short-term yields and long-term yields are always to some extent interconnected.

25. The Bank of Canada, however, cannot rely in all circumstances solely on the indirect influence that it can exert on interest rates through cash reserves. In certain situations, as has been mentioned earlier, the central bank may feel that it should engage in limited market transactions in medium and long-term as well as short-term securities. From time to time it may be desirable to combat disorderly market conditions as, for example, when the market needs assistance in adjusting itself to unexpected shocks such as the substantial shifts of assets sometimes associated with large-scale private or public debt operations. The sensitivity of international flows of funds to changes in interest rates may on occasion provide another reason for the central bank to operate in a particular area of the market. Changes in long-term as well as short-term yield differentials between Canada

and the United States can induce substantial flows of funds from one country to the other and thereby aggravate or ease exchange and other problems. Many countries experience large inflows and outflows of funds in response to changes in short-term interest rate differentials but it seems probable that there is no other country where the international flow of funds has been as sensitive to changes in long-term interest rate differentials as in Canada.

26. Recent experience in the United States provides a good example of a situation where the central bank has tried to exert some direct influence on the interest-rate curve for balance-of-payments reasons. In the United States the declared policy has recently been to keep short-term rates from falling too low and to keep long-term rates from rising too high. The Federal Reserve System has contributed to this objective by departing to some extent from its previous policy of confining its open market operations almost exclusively to the very short end of the market.

27. The need to co-ordinate central bank operations with Government debt management operations is another reason why the Bank of Canada feels it should not rigidly restrict itself to dealing only in short-term securities. Some operations of the Bank designed to contribute to the debt management programme are described in Submission IV, *The Role of the Bank of Canada in Debt Management*.

28. The direct impact of securities transactions depends not only on the term to maturity of the securities but also on the manner in which the central bank operates in the market. For example, if it purchases securities by responding to an offer in the market when prices tend to be weak, the support which this transaction provides has some effect but it is not likely to have much impact on market expectations. The normal practice of the Bank of Canada is to respond to bids and offers made by others in the market. If the central bank were to enter the long-term market and bid up bond prices to deal with some exceptional situation the impact would depend on the view the market took of this intervention. If the market regarded the central bank's price as "artificial" its action could, perhaps after a speculative flurry, result in a weakening rather than a strengthening of market prices.

29. Each week at the treasury bill auction the Bank of Canada has the opportunity of trying to affect cash reserves by bidding for an amount of the new bills which is more or less than the amount of its holdings of maturing bills; alternatively, it can attempt simply to "roll over" its holdings. Its influence on the average tender rate depends on the size and prices of its bids. The bidding of banks and dealers will be affected to some extent

by the cash reserve situation as well as by their expectations of market developments. However, the results of the auction may not affect the cash reserves of the chartered banks even in the direction (let alone to the extent) that the Bank of Canada would like to see, and the Bank may have to use other means of affecting cash reserves in order to bring about the changes which it regards as appropriate. Or the auction may result in an average tender rate which is quite inappropriate in the Bank's view, in which case it can manage the cash reserves of the banks subsequently in such a way as to attempt to exert the desired influence on short-term rates.

30. At the time of a new Government bond issue the Bank can normally add to its holdings of securities if it wishes. If the new issue is a refunding operation the Bank has the opportunity of increasing, or since it will probably hold part of the maturing issue, of decreasing its total holdings. Its action will be influenced by the effect it wishes to have on cash reserves and also on occasion by debt management considerations. It might, for example, choose to subscribe for less of the new issue than it holds of the old in order to be in a position to make supporting purchases of the new issue in case of need without increasing cash reserves unduly. If it should turn out that such support was unnecessary, the central bank would have to find some other way of adjusting the cash reserve situation.

31. The Bank may also provide cash reserves through advances to banks and purchase and resale arrangements with dealers; these matters are discussed in section C, "Central Bank Advances and Bank Rate".

32. The conditions prevailing in the securities market will affect the Bank of Canada's choice of the precise means to be used for injecting or withdrawing cash. Under certain conditions the Bank may wish to avoid any direct impact on the securities market. For example, if prices were already tending to be very strong the Bank, though faced with the need to inject additional cash (to provide, for example, for an outflow of note circulation), might wish to avoid adding to the upward pressure that would result if it provided the cash by buying securities in the strong area of the market. At other times it might feel that it was desirable to bring about an increase in cash reserves in a way which did provide some market support. If it were considered appropriate in particular circumstances to encourage a widespread feeling of tightness, the Bank might choose to defer providing cash until money market dealers approached the central bank for accommodation through purchase and resale arrangements.

33. Finally, the method which the Bank uses to change cash reserves will be influenced to some extent by the different timing of the cash effect of various kinds of

transaction. In accordance with market practices, the delivery of a bond with a term to maturity of more than three years is made on the third business day after the transaction has been arranged, at which time payment is made, and the cash reserves of banks are affected the following day. Government bonds with a term to maturity of less than three years are delivered on the second day and the cash effect takes place on the third day. Treasury bills are delivered on the first day following completion of the transaction, so that the cash effect takes two days from the date of the transaction. Transfers of Government deposits between the central bank and the chartered banks are normally made at the end of the day and have cash effect on the following day. The cash effect of purchases of securities from money market dealers with resale agreements also occurs on the next day. In the case of advances to the chartered banks the cash effect is immediate.

34. In general, the present powers of the Bank of Canada provide it with an adequate range of effective techniques for controlling the cash reserves of the chartered banks. The object of controlling the cash reserves is of course to influence the chartered banks to add to, or to reduce, the total of their assets. While the central bank can control the cash reserves within quite narrow limits, the immediate response of banks may vary within rather wide limits and may in turn necessitate further cash reserve adjustments.

The Determination of the Extent of Changes in Cash Reserves

35. On a day-to-day basis the central bank must decide not only what kind of operations to undertake to affect the level of cash reserves but also the size of those operations. To begin with, it must always take into account a variety of factors which will change the existing level of cash reserves if the central bank takes no offsetting action. Some of these factors will be known precisely—for example, the amount of securities transactions entered into earlier, settlement for which will affect cash reserves that day. Others, chiefly the daily change in note circulation, must be estimated. In addition to allowing for the cash effect of outstanding transactions, including those entered into for reasons not directly related to cash management, and changes in cash resulting from the initiative of others, the central bank must form a judgment as to what level of cash reserves is likely to produce the desired response by the chartered banks.

36. Decisions regarding the appropriate size of changes in the cash reserves of the chartered banks are very much a matter of successive approximation, mainly because the short-run response of the banking system to given

changes is quite variable. There are many reasons why banks as a group may respond rather differently at different times to the same over-all cash reserve situation, and under the existing legislation the minimum cash reserve requirements to which the banks are subject permit a fairly wide degree of latitude.

37. The idea that with a minimum 8 per cent cash reserve ratio chartered bank deposits can increase by \$100 million only if the central bank has already increased cash reserves by \$8 million is an oversimplification of what actually happens. Under present arrangements changes in the level of a bank's deposit liabilities in the course of any month have no effect on the amount of cash reserves it is required to hold until the following month. The fact that an individual bank is likely to lose cash reserves to the other banks if it attempts to increase its assets more rapidly than the others undoubtedly exerts a restraining influence. Nevertheless, there have been increases in bank assets of as much as \$200 million in the course of a few days without any concurrent increase in cash reserves on occasions when most or all of the banks have been responding to a common influence such as a sharp jump in loan demand or a new issue of Government securities.

38. The structural characteristics of the banking system as well as the cash reserve formula may play a part in this result. In a system with a large number of banks, none of which account for more than a small proportion of total deposits, each bank will expect to lose cash whenever it makes a loan or investment because the chance of the funds ending up with its own depositors is negligible. It is true that if all banks were expanding their assets at the same rate the cash reserve losses of each would be offset by cash reserve gains from others, but where there are many separate banks there would be almost no possibility that all would keep in step; the high degree of risk that there would be a loss of cash would tend to restrain any one bank from attempting to increase its assets rapidly. The smaller the number of banks, however, the greater chance there is that a substantial increase in the demand for bank credit will produce about equal rates of increase in assets. To the extent that this happens each bank finds that additions to its assets have not in fact resulted in a loss of cash reserves. This can happen relatively easily in Canada where the chartered banks are eight in number and where three of them account for 70 per cent of total bank deposits.

39. If there is a large increase in deposits during one month the cash reserve requirements for the next month will of course rise sharply. The additional cash reserves required for banks as a group will have to be provided by the central bank by the end of the reserve period in one way or another, perhaps by way of advances to

banks or purchase and resale agreements with dealers, but no individual bank can take it for granted that it will automatically get enough of the total amount of cash reserves in the system to be able to meet its own cash reserve requirements. Consequently, what the central bank can do with respect to an undesired increase in total bank deposits which has already occurred is to keep cash reserves low enough for a long enough portion of the current month or of subsequent months to induce individual banks to make net reductions in their total assets in an attempt to acquire the needed cash. The speed and magnitude of such responses determines the extent to which total chartered bank assets and total chartered bank deposits will be reduced. When it reduces cash reserves the central bank cannot foresee the exact changes in bank assets and deposits that will occur. On a day-to-day and week-to-week basis the central bank must be prepared continuously to adjust cash reserves, to watch the response of banks and developments in the market, and to make further adjustments as necessary. In any given month the important question is not the absolute level of cash reserves but the difficulty or ease with which the banks are able to obtain their cash requirements. It is the case that over any long period, with an 8 per cent cash ratio, changes in total chartered bank deposits will be roughly twelve and one-half times the change in their cash reserves, but the process by which this relationship is maintained is indirect, complex and subject to considerable imprecision in the short run.

40. Day-to-day fluctuations in cash reserves are experienced by every chartered bank; they arise in part from central bank operations affecting total cash reserves and in part from inter-bank shifts in cash. If a bank feels it necessary or desirable to make an adjustment to a change in its cash position, its usual response is to reduce or increase its holdings of money market assets (day-to-day loans, treasury bills or short-term Government bonds). A tight cash position causes the banks to sell money market assets on balance, and a flushing-up of cash causes them to bid for additional money market assets. Bank holdings of money market assets serve as a cushion between changes in cash and changes in their other assets. If bank loans rise by a large amount or if banks subscribe for a large amount of an attractive offering of Government bonds, they can make offsetting reductions in their holdings of money market assets if they have to (provided of course that they have more than minimum holdings of such assets). Such reductions cannot directly force the central bank to supply additional cash to the system but it can put substantial—even if temporary—upward pressure on money market rates. So long as banks have an appreciable cushion of secondary liquidity the trend of their

loans and the scale of their participation in new Government issues will be beyond any precise control through cash reserve management, and this would be true no matter how rigid was the system of reserve requirements.

41. Bank lending policies are not changed frequently, and the connection between them and central bank action to control cash reserves is very loose. In a period of restraint, after there has been a significant reduction in the chartered banks' liquidity cushion of money market assets and Government bonds, perhaps accompanied by some realized losses on sales of securities, their lending policies will at some stage be tightened. In the short run, however, the trend of bank loans outstanding depends more on the demand of bank customers for credit than on changes in the lending policies of banks. Even when banks are disposing of liquid assets because cash reserves are tight there may still be an increase in total bank assets and in the "money supply" resulting from a large rise in loans.

42. Cash reserve management is a process of successive approximation in which the Bank of Canada is to some extent responding to actions of the chartered banks and to market developments just as the banks and the market are responding to Bank of Canada operations. While the Bank of Canada knows that the continued maintenance of a ratio of less than the 8 per cent minimum will sooner or later produce a very tight situation and induce banks to dispose of some of their liquid assets (and that the maintenance of a reserve ratio of well over 8 per cent will eventually produce an easy situation in which the banks add to their liquid assets), it cannot expect to achieve anything like precise control over the timing, magnitude or detailed character of bank responses. In one period a given cash ratio may be accompanied by net purchases of Government securities by the banks, perhaps because of their views concerning future market levels, while in another period with the same cash ratio the banks may keep their holdings of these assets steady or even reduce them. In one period the cash situation may, with a certain cash reserve ratio, appear to be quite easy throughout the month; at another the central bank may find that with precisely the same cash ratio the cash situation is tight and that it is called upon to provide additional cash under purchase or resale agreements with dealers or even advances to banks. A bank's response may be influenced by the trend of its loans; if loans are rising rapidly the bank may take a more serious view of a rather tight cash position than it would if it did not expect to experience continued drains of cash from that source. Or it may be influenced by its view of the central bank's policy. If it believes the central bank is following what is basically

an easy credit policy, a chartered bank may regard a decline in total cash reserves as only temporary and in this case it will probably not react strongly. If, on the other hand, because the banking system as a whole has had to reduce its liquid asset holdings, it feels that the central bank is starting to apply a tighter policy the bank may begin to work to a slightly higher cash reserve target and at the same time begin to shorten its security portfolio.

43. Not all banks work to precisely the same cash reserve ratio targets and the response of banks as a group is therefore affected by the distribution of cash among them. Moreover, responses to changes in cash reserves will depend to some extent on how much of the monthly averaging period remains in which to achieve the required average level of reserves. If a bank experiences a change in cash reserves early in the month it has considerable time to make the necessary adjustments, whereas if it occurs late in the month and the bank's cumulative average cash ratio does not leave much margin above the legal minimum the reaction must be prompt. Again, policies in regard to the timing of adjustments tend to differ from bank to bank. One bank may attempt to correct its cash reserve position promptly while another may take more time. The daily cash ratios of some banks swing through a much wider range in the course of the month than others. As a consequence if one bank has a daily ratio of, say, 8½ per cent and another bank of about the same size has a ratio of 7½ per cent, the combined response of the two banks may be quite different from what it would be if they were both at 8 per cent. In general, the limited ability of the Bank to predict in advance the precise nature of the chartered banks' response to changes in cash reserves can be compensated for to a considerable extent by continuous adjustments in cash reserves as information about such responses becomes available; the Bank is greatly assisted in this respect by the fact that the chartered banks report statistics on a very current basis.

44. Although over the years the banks have worked progressively closer to the statutory minimum cash ratio, it will be clear from the above that under existing arrangements the Bank of Canada cannot maintain precise control over the total deposits of the chartered banks from day to day or from week to week. But the central bank does not need to have precise short-run control in order to pursue effectively its goal of appropriate credit conditions. Indeed the central bank cannot know in advance what rate of change in the "money supply" might be consonant with achieving such conditions. The central bank begins by working toward a certain level of cash reserves but it is prepared to respond to chartered bank actions and developments in the market. To

some extent it may have to compromise between reducing temporary aberrations in short-term interest rates and smoothing temporary aberrations in the rate of growth of bank assets. No system could be guaranteed to do both simultaneously since the non-bank demand for both bank credit and money market assets is bound to be subject to temporary disturbances of greater or lesser extent at irregular and unpredictable intervals, and a reasonable degree of flexibility in the system is desirable.

45. There must, however, be some limit to the amount of looseness or play in the linkages within the system. If banks did not aim at reasonably stable cash ratios but allowed these to undergo wide fluctuations, it would become very difficult to use cash reserves as a control mechanism and the central bank would have to rely on much more extensive open market operations either in an attempt to bring about larger swings in cash reserves or to have a more direct influence in the market. The longer the period covered by the minimum cash reserve requirement the more scope there is for delayed or erratic response. For example, if the minimum cash reserve requirement were applied to the average level over a six-month period, the response of banks to changes in cash in the early part of the period could be quite similar to their response under a system where there was no minimum requirement at all. At the other extreme, a requirement to maintain an exact ratio of cash reserves to deposits on a strictly current daily basis would produce an intolerably rigid situation. It is highly desirable that there should be some short-run elasticity in the "money supply" so that the banking system can quickly absorb the day-to-day shocks that result from sudden changes in the demand for credit or in the attitudes and desire for liquidity of investors or from sudden shifts in cash between banks. It is impossible for the central bank to know about all the factors that produce such developments in time for it to make the necessary adjustments in cash reserves and if the minimum cash reserve ratio were applied on a strictly current daily basis, the banks would undoubtedly aim at maintaining enough excess cash reserves to give them the minimum flexibility they need even though this involved some sacrifice of earnings.

46. In the light of all these considerations it is by no means easy to form a precise view of what is the best formula for minimum cash reserve requirements. It seems desirable that the exact amount of deposits with the Bank of Canada which the chartered banks are required to hold on the average should be known to all concerned at the beginning of the reserve period. This means that the statutory figures for their own deposit

liabilities and holdings of Bank of Canada notes should relate to an earlier period. The optimum period to which the requirement should apply is something that can be determined only by experience. The present view of the Bank of Canada is that the existing formula permits unduly slow responses and results in unduly large discontinuities in cash reserve requirements.

Minimum Liquid Asset Ratio

47. In every country the commercial banks hold some portion of their assets in relatively liquid form in order to be in a position to replenish their cash reserves quickly when necessary. In a period in which the demand for bank loans is strong, banks may allow their holdings of liquid assets to decline as a means of accommodating part or all of this demand. However, a bank would not wish to run the risk of finding itself completely out of liquid assets, and well before the decline reached this point the bank would begin disposing of other available assets—for example, somewhat longer-term securities—or if necessary adjusting its lending policy. If there is no generally accepted minimum level for liquid asset holdings it is possible that the pressure of competition to make loans and the desire to avoid disposing of other assets (perhaps at realized losses) might on occasion cause some banks to allow their liquid assets to drop temporarily to quite low levels. The ultimate consequences of not taking moderate corrective action in good time might be to make a large-scale liquidation of bonds or undesirably drastic changes in lending policies, or both, unavoidable at some later stage. Moreover, the absence of any agreed minimum ratio of liquid assets would introduce another element of uncertainty concerning the response of the banking system to central bank action; it might be impossible to predict even within quite wide limits the point at which banks as a group would feel they could no longer go on reducing their holdings of liquid assets.

48. A minimum liquid asset ratio, therefore, makes the response of banks somewhat more predictable and in addition it is likely to produce smoother reactions on their part. The banks are more likely to begin to take other steps gradually as their liquid assets approach the minimum rather than allow themselves to get into a position where they have no alternative but to dispose of large blocks of securities and make major changes in lending policy.

49. It might, of course, be possible for banks as a group to react to a minimum liquid asset ratio by carrying a total of liquid assets far in excess of the required minimum, or by shortening their bond portfolios to the point where these holdings were themselves virtually

liquid assets. If the banks were to do this when cash reserve conditions were easy, it might indeed become difficult when conditions tightened to predict when the banks would take action to adjust their lending policies. Normally, however, the desire of banks to maximize their earnings should prevent this excessive build-up of liquidity from occurring since the banks must sacrifice earnings in order to maintain excessive holdings of liquid assets whose yields tend to be relatively low. The central bank relies on competition for earnings in the financial system being keen enough to prevent any group of financial institutions from carrying excessive liquid reserves when there are opportunities for a more profitable use of their resources.

50. In Canada the minimum liquid asset ratio has, since 1956, been set by agreement with the chartered banks at 15 per cent of deposit liabilities on a monthly average basis. The liquid assets prescribed for the purposes of the ratio are cash reserves, day-to-day loans and treasury bills. It is the view of the Bank of Canada that the minimum liquid asset ratio is a useful instrument of monetary policy and that it should be retained.

C. Central Bank Advances and Bank Rate

Central Bank Advances

51. Standing arrangements under which the Bank of Canada is prepared, within specified limits and subject to certain terms and conditions, to respond to requests of chartered banks for temporary advances (and of money market dealers for temporary accommodation under securities purchase and resale agreements) play a rather limited but nevertheless useful role in the present system of monetary management. They provide individual banks and dealers with an underlying assurance of liquidity. Provided that arrangements for access to central bank credit are subject to adequate restrictions and involve paying a penalty rate of interest, they need not in practice appreciably weaken the central bank's control over the total of cash reserves.

52. In situations in which the Bank of Canada provides short-term accommodation to a bank or dealer, it might as an alternative make outright purchases of securities—perhaps the same securities as those offered as collateral for advances or purchased under resale agreements. But arrangements which leave a certain amount of initiative in the hands of dealers and banks in increasing the supply of central bank cash may be quite useful, particularly if the central bank wishes to limit the extent of its direct participation in the securities market. In a system in which the central bank attempts to work largely through institutional and market

responses to its cash reserve management, access to central bank credit by way of advances and resale agreements provides a safety valve which prevents extreme responses to reductions in the total amount of cash reserves, or to an uneven distribution of cash reserves, or to sudden increases in the demand for bank credit. By letting banks and dealers take the initiative in dealing with a stringent cash reserve situation, the central bank may also in appropriate situations provide less relief to an atmosphere of "tightness" than if it took the initiative itself by appearing in the market as a buyer of securities.

53. Certain minimum conditions must be fulfilled if central bank lending is to play a role in the provision of cash reserves without undermining the basis of central bank control. The central bank must not be the cheapest source of credit in the market, or there will be no incentive for banks and dealers to seek to obtain their requirements elsewhere. Nor must the cost of central bank credit be too far above short-term market rates for if this were the case access to the central bank would not be used and would therefore not serve to moderate extreme responses to tight situations in the money market. Rules must be applied in regard to the term of advances if the central bank is to limit itself to the provision of credit for very short periods. Other rules are necessary to avoid a situation where every single request for accommodation by a bank or dealer involves a separate negotiation—for example, rules which allow the borrower to rely on automatic access to credit up to certain specified amounts and subject to certain specified conditions.

54. The question also arises whether banks should be allowed access to central bank credit under the same terms as money market dealers. If a bank finds itself in a tight position it can obtain funds from money market dealers by calling day-to-day loans (if it has any) and the dealers can turn to the central bank for accommodation if necessary. The Bank of Canada has regarded it as desirable to leave the banks with incentive to use the money market rather than lean directly on the central bank. It could indeed be argued that banks do not need direct access to central bank credit at all since they have the alternative of calling day-to-day loans or selling securities. However, this argument does not take account of the fact that borrowing from the central bank is the quickest and surest way for a bank to obtain additional cash reserves on a temporary basis, that a bank may be short of money-market assets, and that market conditions may make the sale of bonds unusually difficult. The current arrangements under which the central bank extends credit take account of the fore-

going factors by allowing for a certain amount of virtually "automatic" credit, by limiting its duration, and by differentiating to some extent between banks and dealers. The present arrangements under which advances are made are set out in the appendix to this memorandum.

Bank Rate

55. The minimum rate of interest at which the central bank makes advances is called the Bank Rate. As already indicated it is desirable that the Bank Rate should normally be somewhat above other money-market rates—the day-to-day loan rate and the treasury bill rate—but not too far above. Since 1956 the Bank of Canada's Bank Rate has been set at $\frac{1}{4}$ of one per cent above the latest weekly average tender rate for 91-day treasury bills. It is a matter for discussion whether this method of establishing the Bank Rate is preferable to a fixed Bank Rate which is changed from time to time. Some of the main considerations relating to these alternatives are set forth below.

(a) A "flexible" Bank Rate system

56. Under the general operating approach which the Bank of Canada prefers to follow, and which has been outlined in preceding paragraphs, a Bank Rate tied to a money-market rate has certain advantages. The Bank Rate automatically retains an appropriate relationship to other money-market rates and the central bank is able to use a process of successive approximation without being inhibited by the market expectations which might be generated when short-term market rates approached or went through a fixed Bank Rate. Adjustments to changes in interest rates outside Canada can take place promptly and smoothly without being complicated by the various considerations which arise when there is need to announce changes in the fixed Bank Rate.

57. On the other hand, it has been said that a Bank Rate which is tied to the treasury bill rate and therefore changes each week does nothing to lend stability to the market, or to change expectations in the market when this is considered appropriate and might be achieved through the announcement of a clear-cut change in the Bank Rate. To this, the rejoinder might be that a flexible Bank Rate system reflects the tentative way in which the central bank usually proceeds and that a movement of the flexible Bank Rate to a level that is clearly different from that which has prevailed in the recent past can provide the market with an indication of the central bank's view, not in a dramatic way but perhaps as clearly as is normally reasonable to expect.

(b) A "fixed" Bank Rate system

58. A system in which the Bank Rate is not tied to a money-market rate and is changed infrequently would appear to fit best with an approach under which the central bank seeks to influence interest rates more directly than by management of the cash base; but it is nevertheless still compatible with an approach which is largely indirect. With a given Bank Rate money-market rates could move up or down within a certain range and when a new band of short-term rates came to be regarded as more appropriate to the current circumstances the Bank Rate would be changed. Since the fixed Bank Rate would still be set on a tentative basis there is in principle no reason why it should inhibit the central bank from permitting or encouraging market rates to move, although it is only realistic to recognize that in practice it probably would be inhibiting on occasion. If there were quite frequent changes in the Bank Rate there would indeed be rather little difference between the fixed and flexible systems. However, if a desired feature of the system were that changes should not be frequent and that they should reflect a definite change in the views of the authorities the problem would become more difficult. Under such a system a fixed Bank Rate would tend not to be changed unless those responsible felt quite sure that such a change would be desirable, and one likely consequence might be that changes in Bank Rate would be delayed until there was much more certainty regarding the need for a change than would be required for smaller, more tentative changes. The timing of changes in a fixed Bank Rate might well, therefore, display an undesirable lag. The fact that Canadian interest rates are affected so much by movements in United States interest rates would raise special problems in maintaining a Bank Rate unchanged for extended periods.

59. A fixed Bank Rate might lend an element of stability to money market rates by tentatively placing an upper limit on their movement. On the other hand, market conditions might become unstable for a time when changes in the Bank Rate were anticipated or if an unexpected change in the Bank Rate were made. By changing the fixed Bank Rate the central bank might be able to bring about a substantial change in market expectations on the infrequent occasions when it wished to draw attention in a rather dramatic way to a marked change in the economic and financial climate. The difficulty would be, however, that on the more usual occasions when no such marked change in the economic outlook had occurred but a change in the Bank Rate was necessary simply to keep it in line with slowly evolving credit conditions, the change might be misinterpreted and have an undesired impact on market expectations. If the central bank wished to indicate definite

views to the market regarding the financial or economic situation it could of course do so by making public statements, whatever Bank Rate system was being used.

60. In some countries changes in the Bank Rate are accompanied by changes in a variety of institutional lending and deposit rates, in accordance with some agreed convention. Arrangements of this character would make the central bank's influence on credit conditions more immediately pervasive, but they would also involve it more directly in influencing interest rates of particular credit institutions.

61. Even though changes in a fixed Bank Rate appear to raise monetary policy issues in a somewhat crude and arbitrary way, since the timing and magnitude of such changes are usually only imperfect indicators of the constantly shifting emphasis of policy, it can be argued that they do nevertheless bring into focus at the time they occur the monetary policy which is being followed in a way which does not occur under the flexible rate system.

62. The Bank continues to have under review alternative methods of determining and using the Bank Rate. As stated in his Annual Report for 1961, the Governor hopes and expects that the views of interested parties will be made known in evidence before the Royal Commission, and his present intention is to keep an open mind on the matter until all those with a major interest in it have had a chance to express their opinions.

D. Variable Minimum Cash Reserve and Liquid Asset Ratios

63. The power to vary the minimum requirements for cash reserves places the central bank in a position where it can impound or release chartered bank liquidity. This power would also be implied in any procedure which enabled the central bank to vary the liquid asset ratio. The major difference between a variable cash reserve ratio and a variable liquid asset ratio is the effect on bank earnings, since cash reserves are non-earning assets.

64. In situations where the central bank is using its normal techniques of cash management in order to exert a restraining influence on excessive demands for credit the chartered banks are likely to find it necessary to sell Government securities if they wish to continue increasing their loans. The expansion of bank loans is thus likely to put strong upward pressure on market interest rates, and this will have a deterrent effect on borrowing through the sale of securities. But for reasons which have been explained in a previous submission there are

limits to the extent to which the restraining mechanism of interest rate increases can be relied on in practice. In situations where further restraint is highly desirable but serious concern is felt regarding the high level of interest rates or the rapidity of their upward movement, there may be a strong case for the central bank invoking supplementary techniques which it would be reluctant to use in less pressing circumstances. By using one of the devices mentioned above to impound part of the chartered banks' remaining liquid resources, the central bank could reduce the ability of the chartered banks to continue financing loan expansion through sales of securities, and thus make it necessary for them to begin rationing their loans more stringently and sooner than they might otherwise have done. The effect would be to reduce the availability of credit without significant additional upward pressure on interest rates.

65. Such a policy would not succeed in accomplishing much if the unsuccessful applicants for bank credit merely turned up elsewhere in the market to press their demands for credit. However, there are substantial imperfections and much inertia in credit markets and it is a reasonable assumption that many of the disappointed bank borrowers would either fail to search out and find alternative sources of credit or would be deterred at least in part from pressing their full demands through unwillingness to accept stiffer credit terms.

66. Because liquidity-control techniques are designed to take advantage to some extent of the existence of imperfections in credit markets, it is probable that they cannot be used for very long without new market channels developing which reduce their effectiveness. They also have the disadvantage of being discriminatory if they apply only to banks. In the ordinary course of events it should not be necessary to use devices of this kind: monetary, fiscal, debt management and other public economic policies should be able to exert a strong enough influence on economic conditions. It is only realistic to recognize, however, that exceptional situations may arise in which these policies taken together fail to cope with the situation, and in which it may be preferable to fall back on such techniques rather than permit major economic damage to be inflicted.

E. Moral Suasion

67. The term "moral suasion" has long been used in connection with central banking in referring to a wide range of possible initiatives by the central bank designed to enlist the co-operation of commercial banks or of other financial organizations in pursuit of some objective of financial policy. The term is rather imprecise. In some contexts it may refer merely to general exchanges

of views with the banks or others aimed at improving mutual understanding and awareness of the current financial situation, of the general objectives of financial policy, or of particular problems which have arisen in the operation of financial markets and institutions. In other contexts the term is used to mean efforts by the central bank to achieve, through suggestion, discussion and persuasion, specific changes—sometimes temporary—in policies or practices of private financial organizations. It is difficult, therefore, to generalize about either the nature or the effectiveness of moral suasion.

68. The Bank of Canada has a clear responsibility to do what it can to promote mutual understanding of how its operations impinge on those of the financial system, and one means of doing this is for the Bank to have frequent and close contact with chartered banks and other financial organizations. One of the continuing interests and responsibilities of the Bank is to improve the organization and operation of financial markets in Canada and in order to achieve this, frequent discussion with other participants in financial markets is essential. Many such discussions with regard to particular financial practices in which the Bank has participated have resulted in agreement on new proposals which have subsequently been implemented. Perhaps the outstanding example is the series of innovations and changes which permitted the growth of a short-term money market in Canada. The Bank of Canada regards the kind of leadership that it was able to give in the development of the money market as a constructive use of moral suasion.

69. In general, moral suasion would seem to work best when it involves leadership and exhortation directed toward goals that involve no essential conflict between

public and private interest and where co-operation is therefore likely to be readily forthcoming. In other forms, however, it may have important drawbacks. Where targets can be established against which performance can be reviewed—as, for example, an agreement with the chartered banks to observe some over-all loan ceiling—this technique may well be effective but it is likely to involve some loss in flexibility of the financial system or some reduction in competition. It may also involve discrimination in favour of other groups of lenders who do not respond to moral suasion. If what is sought is to change the distribution of credit, it must be said that there is an important area of doubt regarding the propriety of the central bank making qualitative decisions about the allocation of credit to particular classes of borrowers or for particular purposes unless it is clear that the central bank is operating on behalf of the Government. Another problem in moral suasion is that of the timing of disengagement from the understandings reached: the withdrawal of a suggestion regarding policies to be followed runs the risk of being interpreted as meaning that the central bank wishes to see a considerable change in existing policies without this necessarily being the case.

70. In general the Bank of Canada is reluctant to ask financial organizations to act in a manner contrary to that indicated by the market forces which confront them; and it prefers whenever possible to discharge its responsibilities through the use of its normal cash reserve management techniques. However, the Bank is aware that there may be occasions when ordinary procedures are not adequate and in which exceptional requests for co-operation should be made.

APPENDIX

THE CONTROL OF CHARTERED BANK CASH RESERVES BY THE BANK OF CANADA

71. The Bank Act requires each chartered bank to carry a minimum monthly average cash reserve amounting to 8 per cent of its Canadian dollar deposit liabilities in the form of notes of and deposits at the Bank of Canada. By varying the amount of cash available to the system the Bank of Canada can, over time, regulate the broad trend of the chartered banks' total deposit liabilities in a manner consistent with the changes in credit conditions which it considers appropriate in the circumstances. This memorandum describes the ways in which the cash reserves of the banks may be changed.

72. In operating a system where the minimum cash reserve requirement is expressed as a percentage of deposit liabilities it is necessary to have information on each of the three elements that enter into the calculation

of the ratio. Statistics of deposit liabilities and of banks' holdings of Bank of Canada notes must be compiled from the returns of individual bank branches and for this reason are available only with some time lag. The Bank Act prescribes that for purposes of calculating the required legal reserve, the deposit and note holdings relevant for each month should be taken as the average amounts on the four consecutive Wednesdays ending with the second last Wednesday of the previous month. The other component of the cash reserve, deposits with the Bank of Canada, is calculated by averaging the daily figures for the current month. Under this method of determining the reserve requirement, two of the elements are fixed at the beginning of each month, and satisfaction of the law requires only that each bank's monthly aver-

age deposit with the Bank of Canada shall not fall short of the indicated minimum level. Changes in deposit liabilities and in banks' holdings of notes do not affect the legal reserve calculation until the beginning of the next month. For the sake of simplicity, the following comments on changes in chartered bank cash reserves refer only to changes in their deposits at the Bank of Canada, that is, to changes in cash reserves within the month.

73. In general, changes in total chartered bank deposits at the central bank result from the balance of changes in all other Bank of Canada assets and liabilities. Some of the factors affecting the level of reserves are under immediate central bank control while others are not. Since, however, the Bank is within reasonable limits aware of changes in those factors which it cannot control directly, it is generally able to take account of them in deciding what its own action should be.

74. The most important asset held by the Bank of Canada is its portfolio of Government of Canada securities: at May 31, 1962 the Bank held \$2,824 million of Government securities and \$325 million in other assets. Changes in its portfolio effected by purchases and sales of securities in the market and by purchases of new securities at time of issue and the redemption of maturing securities provide the Bank of Canada with its most important means of influencing the level of cash reserves. If the Bank purchases securities from a chartered bank it makes payment by issuing a cheque on itself which the chartered bank returns for credit to its deposit account at the Bank of Canada. Conversely, sales of securities by the Bank of Canada to a bank will result in payment by cheque drawn on that bank's deposit account with the Bank of Canada. In the case of a purchase from someone other than a bank, the Bank of Canada cheque issued in payment will be presented by the seller for credit to his own account with a chartered bank or other financial institution, and then returned to the Bank of Canada for credit to the deposit account of one of the banks. Thus, whoever the seller of the security may be, payment by the Bank of Canada takes the form, after clearings and final settlement, of an increase in the deposit account of one of the banks, that is to say, an increase in the reserves of the banking system. The Bank of Canada does not ordinarily know which bank will gain reserves. It acts to increase the amount of cash available to the system as a whole and the share obtained by each bank depends on the competition between banks for business.

75. Transactions in securities with the Government, whether at the time of new issues, in the course of trading in outstanding securities with Government accounts, or at the maturity of issues held in the Bank of Canada's

portfolio have the same effect on bank reserves as transactions with banks or with the public. Purchases from the Government result in the first instance in increases in the Government's balances with the Bank, but on re-deposit of the balances with chartered banks (a matter to be discussed below) the banks come into possession of additional claims on the Bank of Canada and cash reserves increase. Conversely, when the central bank sells securities to the Government or allows them to run off at maturity, it receives payment by a reduction of its deposit liabilities to the Government and, after transfer of the necessary amounts from Government balances with the chartered banks, by a reduction in bank reserves. The Bank of Canada has an opportunity each week at the treasury bill tender to adjust chartered bank cash reserves by bidding in a way designed to vary its holdings in the direction and amount desired though the Bank cannot be sure that it will accomplish its objective. Changes in the total of Government securities held by the Bank may be made to bring about changes in reserves or to offset other factors which would have altered the level of reserves.

76. The Government of Canada maintains a deposit account with the Bank of Canada through which pass virtually all Government receipts and payments. If this were the only Government bank balance it would fluctuate with the daily ebb and flow of Government receipts and payments. In periods when the Government was on balance receiving more in tax and other revenues than it was paying out in the course of its business, it would be receiving cheques on banks and other institutions for credit to its account and after settlement the deposits of the chartered banks would be reduced. In the opposite case Government cash balances would be running down while the balances of chartered banks would be increasing. Thus cash reserves would tend to fluctuate sharply in consequence of the uneven flow of Government payments. In order to avoid this sort of disturbance the Government maintains deposit balances with the chartered banks as well as with the central bank and permits the Bank of Canada, with the concurrence of the Minister of Finance, to transfer balances between the Bank and the chartered banks. (The share of deposits placed with each bank is determined by a formula agreed among the banks which takes account of a number of factors.) So long as balances are transferred in amounts such that all of the changes in the Government's total cash balances occur in its balances at chartered banks and the account at the central bank is held steady, the flow of Government payments will not affect cash reserves. The Bank of Canada normally follows this practice and in this manner offsets the potential effect on cash reserves of Government revenue and expenditure. In order to assist in the day-to-day management of chartered bank cash reserves

the level of the Government's balance at the central bank may be varied within a moderate range but does not go outside this range frequently or for long.

77. There are arrangements which leave some initiative in the hands of banks and dealers in increasing the cash reserves. When a bank finds itself suffering cash losses it seeks to regain cash and adjust its position by liquidating its more liquid assets. Normally it will start the adjustment by calling some of its day-to-day loans to money market dealers and, concurrently or perhaps a little later, it will sell treasury bills and other short-dated securities out of its portfolio. By so doing the bank will draw cash to itself at the expense of other banks: there would at this stage be no increase in aggregate reserves. However, if the dealers whose day-to-day loans have been called are unable to find alternative financing from other banks or elsewhere and are unwilling or unable to balance their positions by selling securities, they may do so by selling securities to the Bank of Canada under an agreement to repurchase them some time within a maximum period of thirty days. Such transactions temporarily increase cash reserves for the period during which the Bank of Canada holds the securities. The price at which securities are resold to the dealer is such that he pays a charge equivalent to Bank Rate for the accommodation. Each money market dealer is entitled to use this facility up to an agreed limit related to the volume of his business. In 1961 the Bank of Canada held securities under "Purchase and Resale Agreements" on 55 business days. The maximum amount outstanding on any one day was \$93 million and the daily average for the year was \$3 million.

78. The chartered banks may also obtain additional reserves for short periods by borrowing directly from the Bank of Canada. The present arrangements under which such advances may be obtained are designed to limit the Bank's role as lender of last resort to exceptional circumstances and to encourage the chartered banks to use, whenever practicable, alternative methods of adjusting their cash reserves in the market such as calling day-to-day loans or selling securities. Advances are made for a minimum period of seven days against the hypothecation of suitable securities. The first advance made to a bank in any calendar month (up to a certain amount specified for each bank) bears interest at the Bank Rate, the minimum rate at which the central bank makes advances. A second advance to the same bank in any calendar month, or a renewal of an advance, or an advance in excess of the specified amount, bears interest at a rate higher than the Bank Rate.

79. In 1961 Bank of Canada advances to chartered banks and Quebec Savings Banks were outstanding on 10 business days. The maximum amount outstanding on

any one day was \$11 million and the daily average for the year was \$0.2 million. Thus advances were a less important source of temporary cash than were Purchase and Resale Agreements, and the two together provided only a very small fraction of the required reserves of the chartered banks during the year.

80. To encourage banks and money market dealers to try to meet their requirements in the market before coming to the Bank, the Bank Rate is normally kept above the day-to-day loan and 91-day treasury bill rates. Since November 1956 it has been set $\frac{1}{4}$ of 1 per cent above the average successful rate at the most recent tender for 91-day treasury bills.

81. The Bank of Canada carries assets and liabilities in foreign currencies. The liability is principally to the Government and the bulk of the asset is simply the counterpart of this liability. The difference between foreign currency assets and liabilities is normally quite small (for some years it has been about \$10 million) and represents the foreign exchange held for the Bank's own account. This net position in foreign currencies does not vary significantly, reflecting the fact that the Bank of Canada does not operate in foreign currencies for cash management purposes.

82. The largest liability of the Bank of Canada is the amount of notes in circulation, which includes notes held by the banks as well as those in the hands of the general public. The Bank does not control the amount of the note circulation. It is able to influence only the combined total of currency and chartered bank deposits and does not determine the proportion which the public holds in the form of Bank of Canada notes; this is determined by the public in response to its varying need for notes for the making of payments. As the public withdraws notes by drawing on its deposits at chartered banks, the banks in turn may replenish their till money by drawing down their deposits at the Bank of Canada. Thus during each month changes in the total note circulation alter bank reserves by an equal amount, increases in the note circulation reducing reserves and vice versa. The note circulation is subject to a strong seasonal movement, building up to a peak during the Christmas shopping period and then falling off sharply at the beginning of the year. This regular swing is one of the most important influences operating on the cash reserves. The main way in which the Bank of Canada can offset the effect of changes in note circulation on cash reserves is by transactions in Government securities, though the transfer of the Bank's profits to the Government in December is also important in this connection. The relationship between note circulation and the Bank's securities operations is brought

out clearly in the attached chart of Bank of Canada accounts.

83. The Bank of Canada makes funds available to its subsidiary, the Industrial Development Bank, by acquiring its shares, bonds and debentures. Purchases of these assets increase chartered bank reserves in the same manner as purchases of Government securities.

84. The Bank of Canada operates Canadian dollar deposit accounts for a number of clients in addition to the Government and the chartered banks. These accounts, which include deposits of the Quebec Savings Banks and of foreign central banks, are shown as a single liability item on the Bank of Canada balance sheet. This item does not fluctuate much and is not used for cash management purposes.

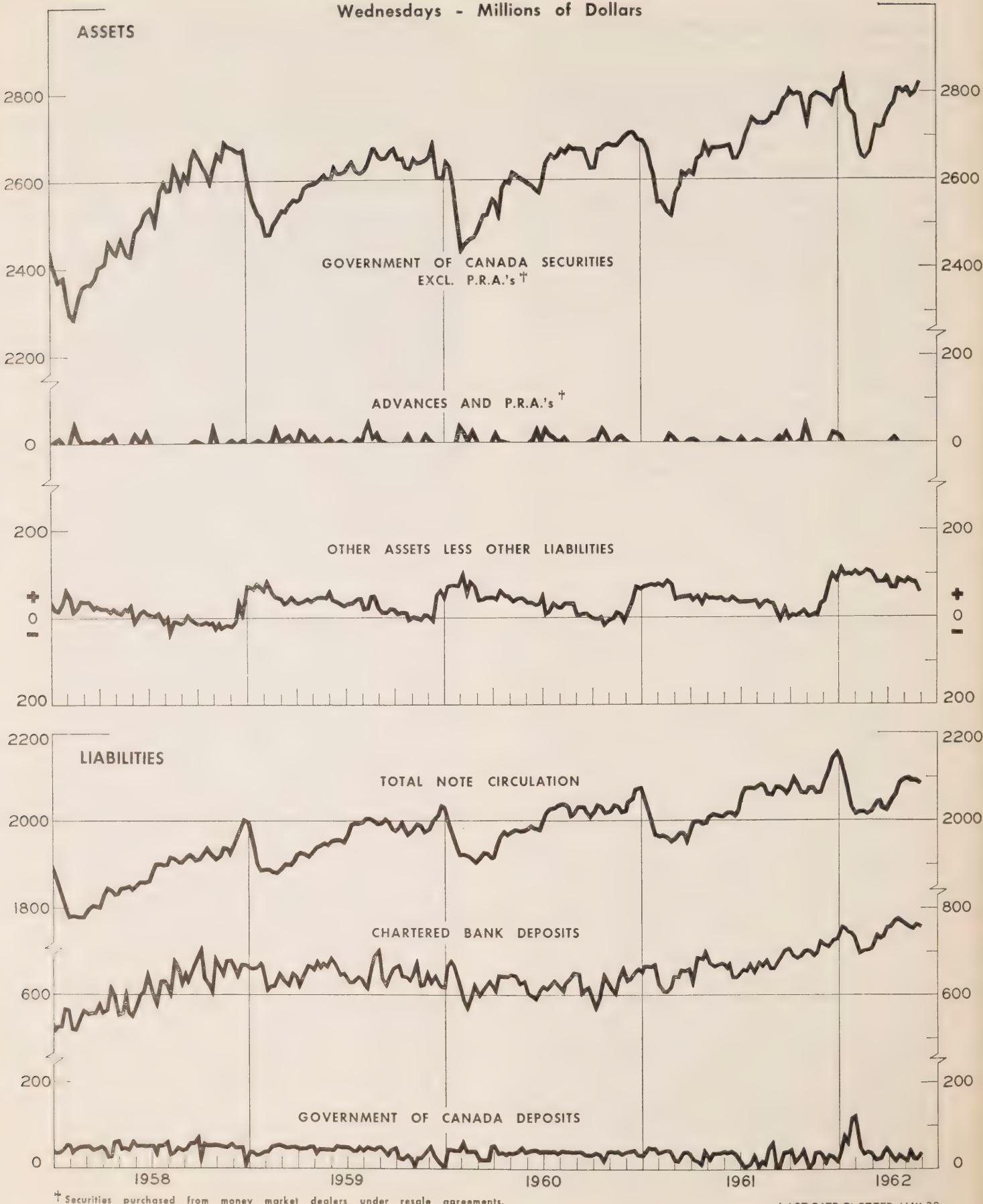
85. Bank of Canada profits accumulate during the year as interest on the portfolio of Government securities and other much smaller earnings items are received, and profits are paid over to the Government towards the end of each year. The receipt of interest earnings from

the Government draws down bank cash while remittance of profits increases the reserves: the Bank of Canada must take this cycle into account in determining cash management policy. The third line on the chart of Bank of Canada accounts entitled 'other assets less other liabilities' includes the profits accounts and reflects the annual build-up of this liability item, as well as its discharge towards the end of the year.

86. This same line includes the net amounts of Bank of Canada transactions which were in transit on reporting days. Virtually all transactions of the Bank, including those for the accounts of the Government and other clients, are cleared and settled against the relevant accounts on the day following receipt of cheques at Bank of Canada agencies, whether the payment is due to or due by the Bank. The amount of float, reflecting the process of settlement of prior transactions is, therefore, known to the Bank at least one day before its effect on cash reserves and may be taken into account in cash management.

BANK OF CANADA ACCOUNTS

Wednesdays - Millions of Dollars



[†] Securities purchased from money market dealers under resale agreements.

BANK OF CANADA ACCOUNTS

(Average of Wednesdays — millions of dollars)

	Assets			Liabilities		
	Gov't. of Canada Securities ex. P.R.A.'s	Advances and P.R.A.'s	Other Assets Less Other Liabs.	Total Note Circulation	Chartered Bank Deposits	Gov't. of Canada Deposits
1957—Dec.	2,453.6	7.8	5.8	1,874.2	542.9	50.1
1958—Jan.	2,384.5	3.1	32.0	1,836.8	540.9	41.9
Feb.	2,317.9	12.8	29.2	1,781.1	536.1	42.6
Mar.	2,376.5	1.9	29.8	1,801.4	560.9	46.0
Apr.	2,428.1	9.0	17.5	1,834.8	577.3	42.5
May	2,441.4	0.3	18.4	1,846.3	565.8	47.9
June	2,490.3	18.7	6.9	1,858.2	606.7	51.1
July	2,557.9	—	1.5	1,897.1	613.5	48.7
Aug.	2,601.0	—	—16.3	1,909.8	637.0	38.0
Sept.	2,632.1	0.8	—4.9	1,916.8	655.9	55.3
Oct.	2,624.5	6.8	—12.7	1,921.4	650.1	47.2
Nov.	2,668.9	—	—20.3	1,930.3	666.8	51.5
Dec.	2,659.5	2.1	15.5	1,977.8	660.6	38.7
1959—Jan.	2,547.9	0.8	72.1	1,924.0	663.9	32.9
Feb.	2,489.7	9.5	62.8	1,886.6	626.5	48.9
Mar.	2,539.5	7.1	39.8	1,900.8	636.2	49.4
Apr.	2,573.3	9.2	38.1	1,923.4	649.7	47.5
May	2,603.5	3.5	44.7	1,944.1	668.2	39.5
June	2,617.4	3.0	42.5	1,952.8	661.8	48.5
July	2,626.1	2.4	35.9	1,988.6	631.7	44.0
Aug.	2,651.3	25.8	35.2	1,999.0	666.5	46.8
Sept.	2,658.8	0.6	18.3	1,990.1	645.2	42.4
Oct.	2,636.3	4.3	5.9	1,982.7	639.6	24.1
Nov.	2,643.0	3.8	0.2	1,982.7	642.2	22.1
Dec.	2,629.2	1.5	31.7	2,011.6	626.9	23.8
1960—Jan.	2,589.8	—	70.6	1,961.3	657.5	41.6
Feb.	2,455.5	20.5	77.2	1,913.6	594.2	45.4
Mar.	2,526.1	0.1	44.2	1,920.5	617.2	32.7
Apr.	2,572.2	5.9	51.0	1,961.3	633.0	34.8
May	2,607.0	—	42.8	1,974.8	635.7	39.4
June	2,585.2	7.5	36.1	1,983.5	605.4	39.8
July	2,649.8	16.6	19.8	2,024.6	623.1	38.6
Aug.	2,668.6	2.2	28.7	2,025.5	634.0	40.1
Sept.	2,655.1	—	5.7	2,022.4	605.5	32.9
Oct.	2,659.2	14.1	—5.7	2,026.5	609.1	32.1
Nov.	2,684.8	6.4	0.5	2,025.6	627.9	38.2
Dec.	2,699.7	—	45.7	2,059.3	650.4	35.6
1961—Jan.	2,649.7	—	72.2	2,011.1	665.2	45.6
Feb.	2,535.1	4.3	75.6	1,959.2	616.0	39.7
Mar.	2,600.1	2.0	45.5	1,968.5	650.0	28.9
Apr.	2,649.5	1.7	41.5	1,994.4	675.2	23.2
May	2,668.8	1.5	41.3	2,011.5	666.3	33.9
June	2,663.6	0.2	38.8	2,017.1	653.0	32.6
July	2,705.8	2.8	36.1	2,067.4	663.9	13.4
Aug.	2,735.1	0.5	31.5	2,070.2	667.7	29.2
Sept.	2,772.0	9.2	4.6	2,071.5	692.0	22.3
Oct.	2,795.8	0.8	6.9	2,079.3	689.6	34.7
Nov.	2,775.8	9.0	9.2	2,067.4	702.0	24.5
Dec.	2,785.2	10.1	71.4	2,124.6	719.7	22.3
1962—Jan.	2,781.9	2.8	102.7	2,068.0	746.0	73.4
Feb.	2,661.5	—	102.8	2,020.4	702.6	41.3
Mar.	2,727.2	—	83.8	2,035.9	740.4	34.7
Apr.	2,788.3	2.3	77.4	2,071.3	768.1	28.6
May	2,803.7	—	78.2	2,092.5	759.5	29.9

BANK OF CANADA

STATEMENT OF ASSETS AND LIABILITIES

As at May 31st, 1962

Assets

1. Gold Coin and Bullion.....	\$	
2. Foreign Exchange		
(a) Pounds Sterling and U.S.A. Dollars \$ 43,227,437		
(b) Other Currencies.....	131,690	
Total.....	43,359,127	
3. Bills Discounted.....		
4. Advances to		
(a) Government of Canada.....		
(b) Provincial Governments.....		
(c) Chartered and Savings Banks.....		
Total.....		
5. Bills Bought in Open Market, Not Including Treasury Bills.....		
6. Investments		
(a) Treasury Bills of Canada.....	222,171,331	
(b) Other securities issued or guaranteed by Canada maturing within two years.....	496,248,983	
(c) Other securities issued or guaranteed by Canada not maturing within two years.....	2,105,370,094	
(d) Securities issued or guaranteed by a province of Canada.....		
(e) Bonds and debentures issued by Industrial Development Bank.....	105,562,906	
(f) Other securities.....	26,079,119	
Total.....	2,955,432,433	
7. Industrial Development Bank		
Total Share Capital at cost.....	29,000,000	
8. Bank Premises.....	10,638,047	
9. All Other Assets.....	111,005,860	
Total.....	<u>\$3,149,435,467</u>	

Liabilities

1. Capital Paid Up.....	\$	5,000,000
2. Rest Fund.....		25,000,000
3. Notes in Circulation.....		2,082,620,589
4. Deposits		
(a) Government of Canada.....	\$	48,074,057
(b) Provincial Governments.....		
(c) Chartered Banks.....		762,188,936
(d) Other.....		51,543,813
Total.....		861,806,806
5. Liabilities Payable in Pounds Sterling, U.S.A. Dollars and Other Foreign Currencies		
(a) To Government of Canada.....		43,510,104
(b) To Others.....		14,717,247
Total.....		58,227,351
6. All Other Liabilities.....		116,780,721
Total.....		<u>\$3,149,435,467</u>

Maturity Distribution of Investments in Securities Issued or Guaranteed by Canada not Maturing Within Two Years (see item 6(c) of above assets).

(a) Securities maturing in over 2 years but not over 5 years.....	\$ 495,399,697
(b) Securities maturing in over 5 years but not over 10 years.....	419,815,596
(c) Securities maturing in over 10 years.....	1,190,154,801
	<u>\$2,105,370,094</u>

Total Amount of Securities Included in Items 6(a), (b) and (c) of Above Assets Held Under Purchase and Resale Agreements.....

\$ -

IV: THE ROLE OF THE BANK OF CANADA IN DEBT MANAGEMENT

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B. The Nature and Problems of Debt Management	46
C. The Bank of Canada as Fiscal Agent in Debt Management	49

IV—THE ROLE OF THE BANK OF CANADA IN DEBT MANAGEMENT

A. Introduction

1. In the context of this submission debt management is taken to mean the management of that part of the Government of Canada's debt which takes the form of direct and guaranteed securities outstanding¹. It includes the determination of the detailed characteristics of new issues, arrangements for their marketing and servicing, and the operation of certain Government investment accounts.

2. The responsibility for debt management lies with the Government. The Bank of Canada's role in this field is that of fiscal agent² and adviser, and since the Bank is a source of information and advice and carries out certain functions in this field on behalf of the Government it has been thought desirable to include a memorandum on this subject in the Bank's submissions.

3. Before the Bank's servicing and advisory functions in debt management are described in detail it may be useful to refer to some of the major considerations and problems involved in the management of the Government debt, including its impact on credit conditions and the necessarily close relationship between debt management and monetary operations.

B. The Nature and Problems of Debt Management

4. The importance of debt management as an instrument of public financial policy in Canada arises essentially from the magnitude of Government debt outstanding in the form of direct and guaranteed securities. The total amount of such debt at the end of April 1962 was \$18,550 million, about one-fourth of the total of Canadian public and private debt outstanding. Government securities clearly constitute an important factor in the structure of the financial assets held by lenders and investors and in the liquidity of the economy.

5. Broadly speaking, this debt represents the cumulative total of all Government cash deficits less surpluses since Confederation, the deficits having been financed through the sale of new securities and the surpluses

having been used to reduce the total of securities outstanding. After allowing for changes in cash balances, changes in debt in any period represent the net balance between Government cash receipts and outlays of all kinds and are thus the consequence of Government actions with respect to its outlays and receipts—that is, broadly speaking, of its fiscal operations. The Government's fiscal operations—and particularly the levels and character of the taxation and expenditure involved—have very important direct effects on the performance of the economy, and on particular industries, regions or economic groups, but these lie beyond the scope of this submission.

6. Debt management is concerned with the detailed characteristics of the securities which constitute the Government debt and with the terms and conditions under which they are issued and redeemed. Decisions in such matters necessarily have an influence on the attractiveness of these securities as compared with other types of financial assets available to investors, and on the prices, yields and other terms and conditions under which money is borrowed and repaid and financial assets are held and traded, i.e. on credit conditions generally. In this respect debt management is similar to monetary management; both can exert an influence on the performance of the economy indirectly through their effects on credit conditions. Since credit conditions are bound to be substantially affected by the actions taken in each of the fields of fiscal policy, debt management policy and monetary policy there is clearly need for close and continuing co-ordination of these various aspects of public financial management.

7. Some of the main differences in the characteristics of the Government's direct and guaranteed securities outstanding are shown in the following table.

Composition of the Direct and Guaranteed Securities of the Government of Canada as at April 30, 1962

(millions of dollars)

Market fixed-term securities	
Treasury bills	1,885
Bonds—under 2 years to maturity	3,207
—over 2 years to 5 years to maturity	2,893
—over 5 years to 10 years to maturity	955
—over 10 years to 15 years to maturity	2,004
—over 15 years to maturity	3,451
Market perpetual bonds	55
Market issues matured and outstanding	26
Non-market securities	
Canada Savings Bonds	4,042
Bonds issued to the Unemployment Insurance Fund	34
	18,552
Of which payable solely or optionally in foreign currency	122

¹There are of course various financial claims other than securities outstanding which might be included in the Government's gross debt, as well as a variety of financial and physical assets owned by the Government which might be deducted in computing its net debt; these are largely irrelevant, however, to the matters discussed in this memorandum.

²Section 20(2) of the Bank of Canada Act provides that: "The Bank if and when required by the Minister so to do, shall act as agent for the Government of Canada in the payment of interest and principal and generally in respect of the management of the public debt in Canada." At the request of the Government the Bank of Canada absorbed the Loans and Interest Branch of the Department of Finance in May 1938 and assumed responsibility for the detailed servicing of and accounting for the outstanding Government debt.

8. The outstanding securities differ widely in their term to maturity, ranging from treasury bills, some of which fall due for repayment each week, to a bond issue due on March 15, 1998. There are also bonds for which no final maturity date is specified and which are therefore known as perpetuities. The contractual rate of return on Government securities also differs widely. Treasury bills do not provide the holder with any specified rate of interest but are sold at a discount which is the effective yield. Market issues of bonds now outstanding carry a specified rate of interest which ranges between $2\frac{3}{4}$ per cent and $5\frac{3}{4}$ per cent. Offerings of market issues are often made at a discount, and in the case of short-term issues this discount is sometimes an appreciable element in the over-all rate of return to the buyer. Certain issues of short-term bonds offer the holder the option of exchange into long-term bonds at any time prior to a specified date. Market issues of securities are freely transferable between holders, while Canada Savings Bonds and the special issues held by the Unemployment Insurance Fund are not. In recent issues of Canada Savings Bonds the coupon rates of interest vary, rising with the length of time the bond is held. Canada Savings Bonds may be held only by individuals and estates, and an individual's holdings of any one issue may not exceed a stipulated maximum amount except by inheritance. Canada Savings Bonds are redeemable at par on demand by the holder, differing in this respect from market issues. The Government has issued bonds denominated in foreign currency (the last occasion being in 1950) or redeemable in one or more foreign currencies or Canadian dollars at the option of the holder (the last occasion being a guaranteed issue sold in 1931). Some bonds have been issued subject to redemption at the call of the Government prior to maturity. Since 1959, issues of Government-guaranteed bonds have provided for a purchase fund operating according to certain specified rules. Since June 1961 a general Purchase Fund has operated in connection with outstanding direct long-term issues. Purchasers of market issues of Government securities are offered a wide range and interchangeability of denominations and a choice between holding the security in registered or in bearer form.

9. The wide diversity in the characteristics of various issues of Government securities referred to in the preceding paragraph reflects one of the basic aims of debt management—to tap as wide a range as possible of potential markets. There are great differences in the kinds of instrument which best suit the requirements of different classes of investor, and an important function of debt management is to make available to investors securities which embody the particular characteristics they want. An interesting and important example of this

diversification of Government securities in order to meet the potential demand is Canada Savings Bonds. The savings plans of many individuals involve a relatively long investment period but must at the same time provide for immediate access to the funds invested in the event of unforeseen contingencies. By selling bonds which are redeemable on demand the Government has been able to tap savings which it could not otherwise reach; the risk to the Government of large-scale redemption is limited by making the instrument eligible for purchase only by resident individuals and estates and not in excess of modest amounts. In the sixteen series of Canada Savings Bonds since their inception in 1946 sales have averaged 1,150,000 in number. The total number of investors acquiring marketable Government bonds in any year cannot be established but the average number participating in the original distribution of new issues at time of offering since 1950 has been 5,400, and the largest number of sales achieved in one issue was 30,400.

10. One of the main areas of decision in debt management is the term of securities to be issued, and decisions with regard to this matter have an influence on the structure of interest rates. If, for example, new issues were concentrated in either the short or the long end of the market to an extent which brought about a marked shift in the maturity distribution of Government securities outstanding, the result would tend to be a higher level of interest rates in the maturity area in which the new issues were concentrated, and lower rates elsewhere, than would otherwise have prevailed. Debt management operations may thus have a considerable influence on the shape of the interest-rate curve, that is, on the relative yields of securities of different terms to maturity. The range of choice is of course limited to the alternative ways of selling a given amount of new Government securities of some kind, since the Government must get the money it requires and the total amount of securities involved have to be placed in one way or another. When the Government is running an over-all cash deficit holders must be found for a rising volume of Government securities, but even when the Government has a cash surplus and its security debt is declining, some of its outstanding securities will mature from time to time and will probably need to be refunded at least in part.

11. Insofar as debt management decisions influence the shape of the interest-rate curve they may tend to change the impact of credit conditions on various sectors of the community. To the extent, for example, that businesses, or provincial and municipal governments, or house builders are more dependent on long-term borrowing than on short-term borrowing an upward (or

downward) shift of long-term interest rates relative to short-term ones will be especially unfavourable (or favourable) to these sectors.

12. Decisions regarding the term to maturity of Government securities to be issued will be influenced by the type of distribution which it is desired to achieve. Some investors such as life insurance companies and pension funds normally tend to prefer longer-term issues and other investors such as the chartered banks, the "near-banks" and non-financial corporations usually prefer shorter-term securities. Investor preferences may on occasion depart substantially from normal as a result, for example, of shifts in expectations regarding the future course of interest rates, but they must always be kept in mind in deciding the term to maturity of new offerings of securities. To be absorbed smoothly with a minimum of disturbance the securities offered must incorporate the term to maturity, yield and other characteristics wanted by investors. Otherwise the result is likely to be market indigestion, falling bond prices, and unsettling effects on market expectations. In the interests of having a saleable product the preferences of the market must be given as much weight as other considerations of public financial policy permit.

13. In managing the maturity structure of its outstanding securities the Government will obviously wish to give maximum support to the objectives of financial policy at minimum interest cost to itself. Although the interest yield on short-term securities is normally lower than that on long-term securities, the cost of the debt to the Government would not necessarily be minimized by issuing only short-term securities. Such a policy would greatly increase the frequency of refunding operations and the expenses associated with them; moreover, the average interest cost of the debt might in fact be higher as a result of over-loading the market with short-term instruments and failing to take advantage of the demand for longer-term issues. Even when some shortening of the average maturity of the outstanding debt could reduce the interest costs to the Government, it would be undesirable if it were inconsistent with the broader aims of Government financial policy in the prevailing economic circumstances.

14. In this connection there are a number of general considerations which are relevant. The first is that the average term to maturity of the outstanding debt is subject to an automatic process of shortening simply through the passage of time. Another is that a reduction in the term of the Government debt outstanding increases the liquidity of the economy, since short-term securities are closer substitutes for money than securities of longer term. There will of course be occasions on which an increase in liquidity is appropriate. Situations may also emerge, however, in which the previously generated

liquidity will be found to be excessive and unless fiscal policy reacts promptly to produce a surplus of receipts over outlays it may prove very difficult, and perhaps impossible, to mop up the excess liquidity rapidly enough to keep the trend of total spending in the economy within desirable limits. Too rapid a growth in the liquidity of the economy could also inspire apprehension about inflation and generate selling pressure in the bond market with effects on the credit situation opposite to those desired. Problems of this sort would be aggravated by another consequence of a large short-term Government debt, namely, that sizeable refunding operations have to be carried out frequently, and this tends to restrict the room for flexibility in monetary management. Large refundings are difficult to carry out smoothly in periods in which security prices are unsettled, but on the other hand there must be some periods during which price adjustments can occur if credit conditions are to vary as required by changing economic circumstances.

15. One technique of debt management to which reference should be made is the use of Government investment accounts to buy, hold, and sell securities for debt management purposes. (See paras. 57 and 58 below.) Since, after allowing for the temporary use of cash balances, the purchases of such accounts will ordinarily require an increase in the amount of securities issued in some other area of the market, the usual effect of such operations over a period of time is to cause changes in the structure of the Government debt and in its distribution among various types of holders rather than in its size. These will have an effect on the liquidity of the economy and on credit conditions generally.

16. In recent years the Government has engaged in a process of "advance refunding" of some of its nearby maturities held by the Bank of Canada which has been helpful in avoiding market disturbances which might have been caused by refunding issues which were unusually large or which had to be carried out under difficult market conditions. The Bank of Canada has purchased the nearby maturities in the market on the basis of switches for, or sales of, somewhat longer maturities up to the mid-term area. New mid-term securities obtained from the Government in exchange for the Bank's holdings of the nearby maturities have provided a diversification in the Bank's portfolio which has enabled it to continue the process of obtaining nearby maturities from the market. In the case of the 3 per cent Government of Canada issue which matured on December 1, 1961, the original outstanding amount of \$1,021 million had been reduced by advance refundings to \$445 million before the maturity date. The process described has affected the maturity distribution of Government securities held by the private sector by enabling the Bank to place with

investors moderate amounts of mid-term issues and to achieve, without disturbance to the market, some modest offset to the shortening of the debt which was taking place.

17. With debt management policy and monetary policy conducted on the basis of common views regarding the kind of credit conditions which are appropriate to the economic circumstances there is much that each can do to complement the other. The choice of maturities and offering prices and the general handling of new securities issues as well as the operation of debt management accounts can support the efforts of the central bank to exercise an appropriate influence on credit conditions. Similarly, cash reserve management and the open market operations of the central bank can help to moderate short-term fluctuations in the level and structure of yields and to assist the smooth and orderly marketing of new issues.

C. The Bank of Canada as Fiscal Agent in Debt Management

General

18. The underlying Parliamentary authorization for the Government's borrowing operations is provided in the Financial Administration Act and in yearly Appropriation Acts. The precise terms of each borrowing operation are approved by order-in-council before any public offering is made. From time to time directives are issued to the Bank on specified phases of forthcoming borrowing operations. In connection with Canada Savings Bonds, for example, the Government instructs the Bank regarding the programme of advertising and promotion and limits on the costs of flotation.

19. To help in considering the timing and size of future borrowing operations the Bank of Canada prepares monthly, and revises weekly, a detailed projection of the Government's sources and uses of cash and its month-end cash balances. Comparisons are made with projections prepared independently in the Department of Finance. When balances are low, projections of daily balances over short periods are made. There are obvious difficulties, however, in predicting the precise timing of the cash effect of known programmes, and more formidable problems relating to Exchange Fund and Purchase Fund operations, the rate of sale and/or redemption of savings bonds, and variations in the "float" of unpaid cheques outstanding.

20. In order to keep abreast of changes in investor preferences and in the demand for funds, the central bank records and analyzes the evidence available on the shifting distribution of outstanding debt (with particular

emphasis on nearby maturities), securities prices and yields, and the flows of funds in the capital market as reflected in both new issue activity and secondary dealing.

21. There are frequent informal discussions with officials of the Department of Finance with regard to the economic and credit situation and the range of alternatives open to the Government in planning its debt management programme for some time ahead, as well as more specifically with regard to the timing, size and characteristics of the next offering. When new issues are being considered officials of the Bank and the Department of Finance have similar discussions with the Minister of Finance at which consideration is also given to views or suggestions which have been put forward privately from time to time to the Bank of Canada or the Department of Finance by investment dealers, bankers, or investors. In due course the Bank is informed of the Government's decision.

Arrangements in Connection with New Issues

22. New offerings of market issues are made by the Bank of Canada on behalf of the Minister of Finance to investors through a network of intermediaries known as primary distributors. Only primary distributors may subscribe directly for market issues including treasury bills. At the present time the group of primary distributors includes the eight chartered banks, the two Quebec savings banks and about 270 investment dealers. New applicants are carefully investigated; they must have a proven record of active and continuous distribution of high-grade securities and be financially responsible. Head offices of the firms now in the group are located in all ten provinces and maximum geographical diversification is aimed at. There have been no instances of misappropriated funds or failure to deliver securities reported to the Bank of Canada by investors in connection with any new offering of Government of Canada securities in the post-war period.

23. In connection with Canada Savings Bonds, the distributing group is enlarged to include trust and loan companies, caisses populaires, provincial savings offices and additional investment dealers. In both market and non-market financing, investment dealers are usually authorized to appoint sub-agents for whose actions the primary distributor is held fully responsible.

24. Each new issue involves the Bank of Canada in a considerable amount of administrative work. Early in the preparations a time-table is proposed to facilitate an appropriate selection of dates for the various announcements connected with the issue, the time and day of offering and of closing the subscription book, the delivery date, etc. Bonds are ordered from the two bank

note companies and instructions given regarding the text to appear on the bonds and coupons. Preparations are made to mail material related to the offering and letters confirming the allotments.

25. In recent issues a brief announcement has been made by the Minister of Finance in which the type and amount of borrowing are indicated two or three days before the detailed terms of the offering are disclosed. The text of this statement is sent by telegram to eligible primary distributors.

26. The official offering telegram to primary distributors is necessarily a lengthy document, and the telegraph companies are notified a few hours ahead, under appropriate conditions of secrecy. Telegrams are scheduled wherever possible for simultaneous release across the country and the telegraph companies need to have enough messengers available to complete all deliveries within fifteen minutes. The telegraph companies are not permitted to transmit the contents of wires to the addressees by telephone.

27. In most recent bond issues about 60 per cent of the amount available for market absorption has been offered to primary distributors on a firm basis, and subscriptions have been invited for the remaining 40 per cent. Subscriptions by any individual distributor have been limited to an amount of funds that is not greater than two times the amount of bonds that have been accepted on a firm basis. After the subscription books have been closed the bonds offered on a subscription basis and any offered on a firm basis and not accepted have been allotted pro rata to the primary distributors who have entered subscriptions.

28. The descriptive material released for each new issue includes a prospectus describing the issue, an advertisement in daily newspapers across Canada, and various news releases that are sent out prior to, at the time of, and after the completion of the offering. In addition, a memorandum of procedure and a large number of forms to facilitate administration are sent by mail to primary distributors at the time of offering. The Bank receives and tabulates acceptances of firm bonds and of subscriptions, calculates and notifies the allotments, receives the delivery instructions and makes preparations for delivery of the bonds across the country.

29. The primary distributor sends the Bank of Canada a report of the distribution of the bonds allotted to him and any purchased in the after-market, usually about five weeks after the date of offering. This information is recorded and analyzed to gain as much insight as possible into the nature of the distribution of the issue, investor interest, and the relative placing power of individual primary distributors.

30. The amount of bonds offered on a firm basis to a primary distributor is based on his ability to distribute such bonds to investors, as determined by his record of taking up firm offerings in past issues and the character of the distribution achieved. The allotment of firm bonds is one of the most difficult tasks which the Bank has in the debt management field; great efforts are made to assemble and analyze all relevant information regarding distributive capacity and to allot firm bonds on an objective basis.

Problems of "Over-Trading" and "Riding"

31. One of the conditions to which primary distributors agree when subscribing for a new loan is the price at which they will distribute the issue. To assist in orderly marketing, primary distributors may not sell new bonds to investors below the issue price until they have been advised that this price restriction no longer applies. In recent issues, this price restriction has been removed at the close of business on the day before delivery of the new bonds, so that it remained in force for about two weeks from the offering date. The price restriction may, however, be removed whenever conditions in the market indicate that it is no longer appropriate, and this may precede or follow the delivery date by one to two weeks. When a new issue has been well placed and its price is firm at, or a little higher than, the issue price (and when prices on Government bonds generally, but particularly in the maturity area of the new issue, are firm) the removal of price restrictions would be warranted. On the other hand, when the price of a new issue is weak after the offering date it may be appropriate to retain the price restriction in order to prevent an early fall in the issue's price from hampering its successful placement; potential buyers may withhold purchases if they expect to be able soon to buy the bonds more cheaply. It should be noted that the price restriction applies only to offerings and sales to investors; it does not apply to transactions between primary distributors.

32. The price restriction is, of course, only effective to the extent that it is observed. When the response to a new offering is uncertain or slow, primary distributors may become worried about their prospects of placing the new bonds and may fear being caught with an inventory of slow-moving bonds in a falling market. If there is a strong incentive to circumvent the price restriction "over-trades" may develop. An over-trade occurs when a new issue is sold to an investor at the issue price in exchange for another issue for which the primary distributor pays more than the market price. Although the price restriction on the new issue is technically observed, the loss which the primary distributor

absorbs on the issue purchased from the investor results in undercutting the price restriction. The primary distributor's commission is in effect reduced or eliminated. When over-trades begin, they tend to spread to more and more transactions and to grow in size under the pressure exerted by investors, particularly large investors. Over-trading often contributes to disorderly markets and hampers distribution to investors.

33. The effective placement of a new issue with investors may also be hampered if its price advances too strongly under the impact of speculative purchases. Some speculative activity is always present in the capital market and in moderation it can play a constructive role, but when it becomes excessive it can produce price distortions which impede the optimum flow of investible funds. For example, a "rider" may place an order for a new issue, the price of which is rising, and sell it before delivery date; he would be taking a profit on the price increase without having to put up any capital, since he would not be required to pay for the bonds until delivery date. The inflated, but short-lived, demand created by the riders may cause an unrealistic temporary price increase, followed by a rapid price drop when some riders unload their bonds in an attempt to realize their profits. Once the price begins to weaken, the effect may be accelerated by the anxiety of other riders to sell their bonds before all their potential profit disappears or their losses become too great.

34. Orderly marketing of an offering of new bonds is important not only for the particular issue concerned but also for the reception which will be accorded future issues. Primary distributors and investors who have been involved in unfortunate developments with one issue are apt to demand greater price concessions on, and may take a more speculative view of, the next issue.

35. The Bank of Canada keeps in continuous close contact with the reception of a new issue. The price quotations on bonds may indicate whether excessive speculation or over-trading is developing, and information from primary distributors helps in interpreting price movements, in identifying the sources of demand, and in estimating the size of the inventories still to be distributed.

Treasury Bill Auction Procedure

36. Since 1953 auctions of Government of Canada treasury bills have been conducted once a week, normally on Thursday, by representatives of the Department of Finance, assisted by members of the staff of the Bank of Canada. Before each auction a notice of call for tenders is distributed by the Bank of Canada, acting on behalf of the Minister of Finance, to a list of banks,

investment dealers, institutions and other business organizations. The notice states the amounts and terms to maturity of the treasury bills to be auctioned, and the conditions under which the auction will be conducted. Recently the weekly issue has consisted of \$95 million of 13-week bills and \$25 million of 26-week bills.

37. Sealed tenders may be submitted by banks and investment dealers included in the list of primary distributors and by the Bank of Canada, either by telegram or on special forms provided for the purpose. Corporations, non-bank financial institutions, individuals, and other purchasers must obtain their requirements through the banks and dealers who participate in the tender. The sealed tenders are held by the Audit Department of the Bank of Canada for delivery to representatives of the Department of Finance, who open them at 12.00 noon on the day of the tender.

38. The highest bidder is allotted the quantity of bills bid for at his price. Succeeding high bids also are allotted bills in full, and bids at the lowest successful price are allotted pro rata.

39. The average prices and the average yields are computed for each maturity and the information is made public at about 2.00 p.m. in a press release, which also gives the high and low accepted prices and equivalent yields, the date of the next auction and the amounts and terms to maturity of the bills to be offered at that time.

40. Treasury bills won at tender are delivered on the following business day at any agency of the Bank of Canada in denominations of \$1,000, \$5,000, \$25,000, \$100,000 or \$1,000,000. On auction day the successful bidders are notified by telephone of the par value won by them and the amount payable; they have until 4.00 p.m. to inform the Bank of Canada regarding the denominations required and the agency or agencies at which delivery will be taken. Delivery must be taken by 3.00 p.m. on the day after the tender against payment by certified cheque, bank draft or clearing house settlement.

Canada Savings Bonds

41. In acting as fiscal agent of the Government for the sale of Canada Savings Bonds, the Bank of Canada is concerned with a variety of operations. Planning for an issue each Fall usually begins in February with discussions of sales targets for the campaign and analysis of the general economic and financial environment. Working closely with representatives of advertising agencies appointed by the Minister of Finance, the Bank helps in the development of an advertising budget and general copy theme. Ministerial approval is obtained for this

theme and for the distribution of budgeted expenditures among the various advertising media, and the Bank continues to meet with and advise the agencies as art work and copy are prepared for use in the campaign. Printing of the many administrative forms and pieces of advertising which are required for the campaign are arranged through the Queen's Printer. Close liaison is maintained to ensure that deliveries of printed material are made at the times and in the locations required. In a number of instances secondary distribution of the material is made through the Bank's regional offices. The Bank provides supervision over all budgetary expenditures through a budget control system. Ultimate authority for payment rests, of course, with the Treasury Board.

42. For each series of Canada Savings Bonds, arrangements are made with the chartered banks and other selected financial institutions to provide the facilities required for the issuance, sale, financing and redemption of the bonds. The Bank normally formalizes these arrangements in late summer. Concurrent arrangements are also made with some 300 investment dealers and other representatives of the financial community authorizing them to act as sales agents and to appoint sub-agents as required, subject to prescribed conditions. Written agreements are obtained from issuing and sales agents, in which they undertake to adhere to procedures outlined in various memoranda of information and instructions.

43. In each Canada Savings Bond campaign considerable emphasis has been placed on the sale of bonds through payroll deduction. These sales normally provide about one-fifth of gross sales in dollars and about one-half in number. To assist employers who are willing to provide their employees with payroll purchase facilities, the Bank of Canada is authorized by the Minister of Finance to create a Payroll Savings Organization. This organization, comprising about 125 organizers grouped in 5 geographic regions, is reconstituted annually and staffed by personnel supplied for varying periods by investment dealers. Central direction is provided by the Bank of Canada. Preliminary planning commences in the Spring and, working with the Regional Directors, the Bank provides the necessary statistical services, supervises the appointment of personnel, maintains up-to-date lists of firms to be covered, arranges for delivery of material and provides temporary office space and staff as required. During the campaign period, which runs for about 6 to 8 weeks, close personal liaison in the field is maintained by officers of the Bank who remain in touch with all phases of the operation. The Bank maintains budgetary control over the organization and recommends to the Minister the basis of remuneration to be paid to the investment dealers supplying personnel.

44. During the general campaign period, regional offices of the Bank act as clearing houses for sales progress reports from individual issuing agents. The regional reports are analyzed by the Bank in Ottawa in a continuous appraisal of the effectiveness of promotional activity. The tabulation of these results forms the basis of campaign press releases. These and other publicity releases are channelled to the various news media through news liaison officers retained by the Bank for the campaign period. Under Bank supervision these officers also provide public relations support to the Payroll Savings Organization and to sales agents in numerous ways adapted to prevailing local conditions.

45. Printing of the large quantity of bonds required for a Canada Savings Bond issue is arranged by the Bank. As bonds become available they are distributed to the various Bank of Canada regional offices and through them to issuing agents. Fully registered bonds, that is, bonds registered as to principal and interest, are requisitioned from the regional offices by the issuing agents and registration is completed by these offices. Coupon bonds, which are registered only as to principal, are issued directly by issuing agents. During the campaign Bank of Canada regional offices receive settlements daily from issuing agents covering sales made to that date and deposit these to the credit of the Government. The Bank of Canada maintains the record of registrations in Ottawa.

46. Registration cards are prepared by the issuing agents in the case of coupon bonds and by Bank of Canada regional offices in the case of fully registered bonds. From them the Bank is able to check against violations of eligibility provisions and of the limit on total holdings of the issue by any one investor. These records also facilitate analysis of early redemptions of each new issue and verification of the bona fides of such transactions if this seems warranted. Commission payments due to sales agents are compiled by the Bank at Ottawa and payments made as necessary. A few months following each campaign period the Bank through its Audit Department undertakes spot audits of the issuing agents' transactions to ensure that proper issue procedures have been followed and that the interests of the Government as borrower have been protected.

47. The Bank issues cheques annually for interest on fully registered Canada Savings Bonds. Coupon interest is paid by issuing agents but redeemed coupons are cleared through the Bank's regional offices for accounting and auditing. Redemption fees on redeemed bonds are calculated by the Bank and settlements made periodically to issuing agents. The Bank also verifies the authenticity of redeemed bonds.

Delivery Arrangements for New Market Issues

48. Delivery of definitive bonds in either coupon or fully registered form is usually made within two to three weeks from the day that the bonds are first offered. Delivery of new bonds is normally made at the regional office of the Bank of Canada nearest the dealer's or bank's main office. However, a dealer or bank may take delivery at any regional office of the Bank by instructing the Bank on the delivery instruction form.

49. The Bank of Canada will also forward bonds by mail to primary distributors at any point in Canada except within the metropolitan area of any regional office. Where bonds are forwarded by mail by the nearest regional office of the Bank, arrangements for payment on the delivery date must be made with that office not later than two days prior to the delivery date.

50. Where fully registered bonds are desired, the Bank of Canada makes every effort to deliver them at the same time as coupon bonds, provided that registration instructions are made to the Bank not later than about one week prior to delivery. Payment is received when the bonds are delivered.

Transfers and Transmissions

51. The transfer of a bearer bond involves no records or signing procedures as this bond is deemed to be negotiable in the hands of the holder. When a bond is registered, however, an instrument of transfer must be prepared and signed by the registered owner or his personal representative. When the registered owner is a corporation, the instrument of transfer must be signed by the corporation's duly authorized officers and the corporation's seal must be affixed, where required.

52. The Bank of Canada is not required to give effect to an instrument of transfer unless the signature on the instrument is guaranteed by a chartered bank or a Quebec savings bank or a financial institution authorized to do so by the Bank. The Bank of Canada in authorizing a financial institution to guarantee signatures for this purpose may limit the amount of bonds that can be transferred in any one transaction.

53. When the registered owner of a bond has died, the Bank of Canada can, upon receipt of certain documents, give effect to the transmission of the ownership of the bond to a person specified in the documents. The required documents will usually include an authenticated or notarial copy of the probate of the will of the deceased owner, or of letters of administration of his estate granted by a court. When the required documents have been received by the Bank of Canada, the bonds to which they relate can be transferred upon completion of an instrument of transfer.

54. Since October 1953 the Bank of Canada has made it possible for any primary distributor to transfer treasury bills from one Bank of Canada regional office to any other for delivery the same day, without charge, provided the bills are lodged before 1.00 p.m. Eastern Standard Time. This means that a bill can be sold by an investment dealer in, say, Halifax to a purchaser in, say, Vancouver, with a minimum of time required to make delivery.

55. In November 1954 these "wire transfer" arrangements were extended to Government of Canada bonds having a term to maturity not exceeding three years (i.e., money market securities) as well as Government of Canada bonds which had been called for redemption. A further extension of the arrangements was made in April 1960 to include all Government of Canada direct and guaranteed bonds provided that in the case of maturities exceeding three years the minimum amount to be transferred is \$50,000 in any one issue. Registered bonds were also made acceptable for wire transfer, provided that the signatures and authority to sign were guaranteed by a chartered bank.

Securities Transactions for Government Accounts and Crown Organizations

56. The Bank of Canada may execute securities transactions as agent for, and on instructions from, Crown corporations and agencies and for Government investment accounts such as the Securities Investment Account and the Purchase Fund.

57. The Securities Investment Account was used fairly extensively during the war and immediate post-war years to purchase and sell Government of Canada bonds with a view to stabilizing their prices. It has also been employed to invest temporary excess cash balances of the Government of Canada although this has become less important with the introduction by the chartered banks of interest payments on Government of Canada cash balances over a certain minimum amount. From time to time it has purchased Government securities of nearby maturity for debt management purposes.

58. In the June 1961 budget the Minister of Finance announced the establishment of a Purchase Fund to provide for the orderly retirement of government debt and at the same time contribute to the stability of the longer term bond market. To March 31, 1962, cancellations of securities held by the Purchase Fund amounted to \$166 million in par value.

59. In each securities transaction executed on behalf of Crown organizations or Government accounts the Bank of Canada states that the purchase or sale is for an account, and the subsequent contract shows that the Bank of Canada has acted as an agent rather than on its own behalf.

V: THE ROLE OF THE BANK OF CANADA IN FOREIGN EXCHANGE

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V—THE ROLE OF THE BANK OF CANADA IN FOREIGN EXCHANGE

A. Introduction

1. Since 1939 the direct responsibility for Canada's foreign exchange policy has, under various Acts of Parliament¹, been vested in the Government of Canada. The Bank of Canada Act gives the Bank power to buy and sell gold, silver and foreign exchange, to maintain deposits with other central banks and to act as agent and depository for central banks and international institutions, but the Bank's holdings of, and dealings in, gold and foreign exchange for its own account are small. However, the Bank carries out substantial foreign exchange transactions as fiscal agent for the Government and provides the Government with information and advice on foreign exchange matters. For these reasons it has seemed desirable to include a submission on foreign exchange in the Bank's evidence before the Commission. This submission discusses some general considerations relating to foreign exchange and describes the Bank of Canada's operations for the Government and its foreign clients. Appendix I describes briefly the International Monetary Fund, and Appendix II the foreign exchange market in Canada.

2. In the period between the opening of the Bank in 1935 and the imposition of foreign exchange control on the outbreak of the war in 1939 the Bank carried some direct responsibility for foreign exchange policy. During that period the Canadian exchange rate was not fixed. The Bank held Canada's official gold reserves² and such stabilizing operations in the foreign exchange market as were deemed necessary were conducted by the Bank for its own account. The Exchange Fund Act of 1935 made provision for the setting up of a Fund to be used by the Minister of Finance to influence the foreign exchange rate, but this power was not invoked until the beginning of the War when the Government imposed foreign exchange control by order-in-council under the War Measures Act, fixed the buying rate for United

States dollars at 110 cents Canadian (i.e. at a rate of one Canadian dollar equaling 90.9 United States cents), and empowered the newly-constituted Foreign Exchange Control Board, subject to instructions from the Minister of Finance, to use the Exchange Fund Account in maintaining the fixed buying and selling rates for foreign exchange. In 1940 an order-in-council required that the gold held by the Bank of Canada be transferred to the Exchange Fund, which also acquired other foreign exchange assets held by Canadian residents. The fixed exchange rate system was suspended in October 1950 and a floating exchange rate system established. The previous authority for the Exchange Fund Account was replaced in October 1952 by the Currency, Mint and Exchange Fund Act under which the Exchange Fund Account was continued as a special account in the name of the Minister of Finance. In May 1962 the Government reverted to a fixed exchange rate, and under the authority of the Bretton Woods Agreement Act established with the International Monetary Fund a par value for the Canadian dollar of 92½ United States cents.

3. The preamble of the Bank of Canada Act provides that one of the purposes of the central bank is to "control and protect the external value of the national monetary unit", and in its monetary management the Bank must, of course, take account at all times of the foreign exchange situation and the need to maintain a sound external financial position. However, as stated above, since 1939 the direct responsibility for foreign exchange policy has been assumed by the Government and decisions regarding the determination of the exchange rate and the conduct of official foreign exchange operations are Government decisions. Foreign exchange operations in support of the Government's foreign exchange policy are carried out by the Exchange Fund Account with the Bank of Canada carrying out buying and selling transactions in foreign exchange on its behalf on instructions from the Minister of Finance.

B. Some General Considerations Relating to Foreign Exchange

4. Canadians engage in international trade on a very large scale; over one-fifth of all the goods and services produced in Canada are sold abroad and about the same proportion of all the goods and services used by Canadians originate outside our borders. In addition, Canadians engage in extensive international transactions in a wide variety of financial obligations, such as bonds and stocks, and in titles to property. Virtually all of Canada's international transactions are affected by the rate at which Canadian currency and foreign currency can be exchanged in the foreign exchange market for this

¹The Foreign Exchange Control Order of 1939 under the War Measures Act, the Bretton Woods Agreement Act, 1945, the Foreign Exchange Control Act, 1946, and the Currency, Mint and Exchange Fund Act, 1952.

²The Bank of Canada Act of 1934 provided that the gold held by the Minister of Finance for the redemption of Dominion notes and the gold held by the chartered banks should be transferred to the Bank of Canada. The Act also provided that Bank of Canada notes should be redeemable in gold and that a gold reserve of at least 25 per cent be maintained against the Bank's outstanding note and deposit liabilities. The gold redemption requirement has been suspended each year since 1934 by order-in-council under Section 22 of the Bank of Canada Act. The gold reserve requirement was withdrawn in 1940 by the Exchange Fund Order, and this withdrawal was continued by subsequent legislation—since 1952 by the Currency, Mint and Exchange Fund Act—subject to reimposition by order-in-council.

rate is the link between prices in Canada and prices abroad. These international flows of goods and services and of capital are so large that they have important effects on almost every aspect of Canadian economic life, and the foreign exchange rate is almost certainly the most important single price in Canada.

5. Canada's foreign exchange rate at any particular time is that established in the foreign exchange market, which is open through the medium of the banking system to anyone who wants to exchange Canadian dollars for foreign currencies or vice versa. During the decade of the 1950's this rate moved as required to maintain the balance of demand and supply with official intervention of the Government's Exchange Fund Account limited to moderating short-run fluctuations. Since May 2, 1962, the Government has undertaken, in accordance with the provisions of the International Monetary Fund, to keep the exchange rate of the Canadian dollar within 1 per cent on either side of the par value of 92½ United States cents, and the Exchange Fund buys or sells foreign currency in the market in such volume as may be necessary for this purpose.

6. There are many underlying factors which can give rise to changes in the demand for and the supply of foreign exchange. One important factor is the general trend of prices in Canada relative to prices in other countries, especially in prices of goods and services that are or can be traded internationally, since a change in relative prices will tend to alter the balance between exports and imports of goods and services and the related supply of and demand for foreign exchange. The trend of Canadian production, income and demand for goods and services relative to that in other countries is another important factor; the level of Canadian imports of goods and services is sensitive to short-run changes in the level of total income in Canada, while the level of exports is sensitive to changes in the level of total income in the countries to whom we export. Changes in the composition of demand in Canada or abroad, e.g., in the strength of capital investment demand or in consumer tastes and customs, can also cause changes in the level of imports or exports. Changes in credit conditions in Canada relative to those abroad, especially in the United States, can give rise to substantial shifts in the international trade in portfolio securities and in similar capital movements. Changes in business organization and inter-company relationships, in taxation and tariffs, and in terms of access to foreign markets can also give rise to changes in the international flow of both goods and capital.

7. The range of Government action that may affect our foreign exchange position is a wide one. The most apparent is direct intervention in the foreign exchange market

in such volume as may be necessary to maintain the exchange rate within fixed limits, but in the longer run direct intervention by the Government in the exchange market is not the principal means available for affecting the foreign exchange situation. Over a period of time it is necessary to combine various public economic policies in such a way that the underlying factors influencing the demand for and the supply of foreign exchange will cause the rate to remain within the fixed limits without large and sustained official intervention in the exchange market in one direction. Direct intervention is primarily a means of dealing with temporary disturbances or providing time for other policies to have their effects. The principal arms of public financial policy—fiscal policy, monetary policy and debt management policy—can play an important role. Each of them can seek to influence the level and character of spending and international capital movements in a manner which is compatible with a stable foreign exchange position. In addition, many Government policies that are not basically financial in character can be important in this connection because they can have important effects on the international flow of trade and capital.

8. Different combinations of public economic policies have different effects on the size of the surplus or deficit on current international transactions in goods and services and the size of the net inflow or outflow of capital. The balances on current account and on capital account must be approximately offsetting if the requirements of over-all balance are to be met, but other aspects of the performance of the economy are much affected by the size of the surplus or deficit on current account and the corresponding magnitude of capital flows. Consideration of these other aspects may thus influence the particular combination of public economic policies that is preferred.

C. Bank of Canada Operations in Foreign Exchange

9. The Bank of Canada engages in few transactions in foreign exchange for its own account. Most of the transactions put through the inter-bank market by the Bank of Canada's foreign exchange traders are for clients, particularly the Exchange Fund Account. All official foreign exchange transactions specifically directed at influencing conditions in the foreign exchange market are done for the Exchange Fund Account, which holds the great bulk of the official holdings of gold and United States dollars¹. The Exchange Fund is prepared to buy or sell exchange in the amounts necessary to keep the rate of exchange within one per cent of the declared par value.

¹The official holdings of United States dollars also include the small net holdings of the Bank of Canada and the working balances of the Minister of Finance.

10. To buy foreign exchange the Exchange Fund needs Canadian dollars and these are provided by advances from the Consolidated Revenue Fund made under the provision of the Currency, Mint and Exchange Fund Act of 1952. Exchange Fund operations can therefore have a considerable effect on the financial position of the Government. If reserves are being accumulated, they must be financed by use of the Government's Canadian dollar cash balances and this may involve additional borrowing. When the Exchange Fund is selling foreign exchange and repaying advances, the Government's Canadian dollar cash position is improved. These advances or repayments of Canadian dollars naturally have a bearing on domestic credit conditions and on fiscal, monetary and debt management policies.

11. The latest published balance sheet of the Exchange Fund at December 31, 1961 may be summarized as follows:

	Millions of Canadian Dollars
ASSETS	
Short-term United States Government Securities	1,104
Gold	987
United States Dollar Deposits	25
Canadian Dollar Deposits	1
Revaluation (Deficit) Account	46
Total Assets	<u>2,163</u>
LIABILITIES	
Advances outstanding	2,130
Earnings on Investments in 1961 not yet transferred to Consolidated Revenue Fund	33
Total Liabilities	<u>2,163</u>

12. The Bank of Canada manages the Exchange Fund's portfolio of United States Government Treasury Bills and other short-term securities and makes changes therein which are consistent with the Fund's changing need for liquidity and with the desire for earnings. Interest earnings from the portfolio augment the foreign currency holdings of the Exchange Fund. After the end of each year their Canadian dollar equivalent is paid to the Government and recorded as budgetary revenue. The Revaluation (Deficit) Account as shown above reflected mainly the revaluation of foreign currency assets into Canadian dollars at the current rates of exchange. With the Exchange Fund's holdings of gold and foreign exchange valued at the par value established in May 1962, the Revaluation Account shows a surplus.

13. The Bank of Canada acts as a depository for the gold owned by the Exchange Fund and also accepts deposits of gold for safekeeping from central banks and international institutions. As depository, the Bank makes arrangements for physical shipment of gold or the trans-

fer of its ownership from one earmarked account to another. The Bank of Canada buys and sells gold for the Exchange Fund including newly mined gold acquired from the Royal Canadian Mint. In marketing gold it is the practice to sell only to foreign central banks, foreign governments and international institutions such as the International Monetary Fund and the Bank for International Settlements. A small quantity of the gold owned by the Exchange Fund is held in safekeeping outside Canada to facilitate deliveries to buyers.

14. The Bank is permitted by the Bank of Canada Act to open accounts in a central bank in any country. Such accounts are, of course, needed to conduct the Bank's foreign exchange transactions. Since the bulk of the dealings in the Canadian exchange market are in United States dollars and sterling, the two most important accounts carried by the Bank abroad are those with the Federal Reserve Bank of New York and the Bank of England. Through these accounts pass the market transactions of the Bank in United States dollars and sterling as well as transactions in these currencies for various government departments and other customers of the Bank. In addition the Bank maintains accounts with central banks in a number of other countries. These accounts enable the Bank to make payments by cable and to issue drafts in the appropriate foreign currencies as required by government departments. The heaviest requirements are those of the Departments of Finance and National Defence but the needs of the Post Office and Departments of Trade and Commerce and External Affairs, though smaller in individual amounts, are numerous and diverse. The foreign currencies to supply these accounts are sometimes obtained in the local interbank market and sometimes in New York or London, but it is usually more advantageous as well as more expeditious to buy foreign currencies from the central banks concerned in exchange for Canadian dollars or United States dollars.

15. The Bank of Canada Act authorizes the Bank to act as agent, depository or correspondent for other central banks and certain international institutions. Deposit accounts denominated in Canadian dollars are maintained at the Bank of Canada by more than twenty central banks, the Bank for International Settlements, the International Monetary Fund and the International Bank for Reconstruction and Development. In connection with these deposits the Bank provides its clients with the usual services of receiving cash, cheques, coupons and other items for clearance or collection and credit to the depositor's account and making payments in respect of drafts and under instructions received by cable or mail. The Bank has no facilities for effecting collections of documentary or other commercial bills of

exchange and central banks which conduct commercial business route their commercial transactions through Canadian chartered banks. The Bank is not permitted by the Bank of Canada Act to pay interest on deposits. Some central bank depositors give standing instructions to employ their balances in excess of a certain amount in treasury bills; others give instructions from time to time to purchase (or dispose of) treasury bills for their account and sometimes to tender for new bills at the weekly offering.

16. The United States dollar deposit accounts maintained with the Bank of Canada by its overseas customers are few in number and not very active. Several are primarily funds left on deposit with the Bank to compensate for services rendered by the Bank in the storage of gold. A more active United States dollar account is kept for the Minister of Finance. The funds which pass through this account are derived from large payments received by the Government from various sources and from purchases made in the Canadian market. In addition, the gold bought by the Exchange Fund from the Mint is paid for with United States funds which are credited to this account. The account is used to keep the Minister's various operating accounts in New York in funds and on occasion for direct payment by telegraphic transfer. An account denominated in sterling is also carried in the name of the Minister.

17. The Bank assembles current information on the market quotations for the monetary units of different countries and territories and acts as a general source of foreign exchange information for all government departments and agencies. The Canadian dollar price which the Minister of Finance pays for the Canadian-produced

gold is based on the weekly average of noon rates on the United States dollar reported to him by the Bank of Canada.

18. The Bank's Statement of Assets and Liabilities, published for each Wednesday and each month-end, shows foreign exchange items under various headings. On the liability side item 5 "Liabilities payable in pounds sterling, U.S.A. dollars and other foreign currencies" needs little explanation. It gives the Canadian dollar equivalent of the total foreign currency balances held on deposit by the Bank for its customers. The total is broken down into (a) "Government of Canada" (i.e. the United States dollar working balance of the Exchange Fund and the various foreign currency accounts of the Minister of Finance) and (b) "Others" (i.e. foreign currency accounts, principally United States dollars, of foreign central banks and governments and international institutions). On the asset side item 2 "Foreign exchange" represents the Canadian dollar equivalent of the foreign currency held on deposit in the name of the Bank by the Bank's various banking correspondents abroad. It is broken down into (a) "Pounds sterling and U.S.A. dollars" and (b) "Other currencies". This figure includes only cash balances. Foreign currencies owned by the Bank of Canada which have been temporarily invested and are held by the correspondents in the form of short-term securities appear in item 6(f) "Other securities" under the head of "Investments". By adding together the two items on the asset side and deducting the item on the liability side the Canadian dollar equivalent of the net foreign exchange holdings of the Bank for its own account can readily be ascertained. On May 31, 1962 the Bank's net foreign exchange holdings were \$11.2 million.

APPENDIX I THE INTERNATIONAL MONETARY FUND

19. The International Monetary Fund came into being in December 1945 following the 1944 Bretton Woods United Nations Monetary and Financial Conference where its Articles of Agreement were drawn up. It is one of a number of institutions which were established to promote international co-operation in particular fields. Its purposes are:

- (i) "To promote international monetary co-operation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems."
- (ii) To facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy."

- (iii) To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation.
- (iv) To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade.
- (v) To give confidence to members by making the Fund's resources available to them under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.
- (vi) In accordance with the above, to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members."

20. The main authority of the Fund is lodged in the Board of Governors who meet once a year. Each country appoints a Governor. The Governors have delegated many of their powers to the eighteen member Executive Board. Five directors are appointed by the countries which have paid the largest subscriptions and the others are elected by the other member countries. Canada has had a director on the Executive Board since the inception of the Fund. The administrative staff of the Fund is headed by a Managing Director.

21. The functions of the International Monetary Fund may be summarized under three headings—the maintenance of exchange stability, the avoidance of impediments to trade resulting from currency restrictions or discrimination and the provision of short-term assistance to members experiencing temporary balance of payments difficulties.

22. Members of the International Monetary Fund are obliged under Article IV to declare par values for their currencies expressed in terms of gold as a common denominator or in terms of United States dollars of the weight and fineness in effect on July 1, 1944, and to maintain their exchange rates within one per cent on either side of this par value. Changes in par values may be made only after consultation with the Fund, and to correct a fundamental disequilibrium. The initial declared par value for the Canadian dollar established on December 18, 1946, was 100 United States cents per dollar. In September 1949 following the devaluation of sterling the Canadian dollar was fixed at 90.9 United States cents per dollar and remained there until September 1950. At that time Canada suspended the fixed rate system and allowed the Canadian dollar to find its own level in the exchange market. The Fund's Executive Board decision concerning this matter stated that it recognized "the exigencies of the situation which have led Canada to the proposed plan and takes note of the intention of the Canadian Government to remain in consultation with the Fund and to re-establish an effective par value as soon as circumstances warrant". In May 1962 a par value of 92½ United States cents per Canadian dollar was established. At the time of this action the International Monetary Fund stated that "the step thus taken by the Canadian authorities represents the return to a fixed par value system by Canada and this is warmly welcomed by the Fund".

23. Members of the Fund are obliged by Article VIII not to impose restrictions on current payments without the approval of the Fund, and to avoid discriminatory currency practices. However, it was recognized when the Articles of Agreement were drafted that many countries would not be able to abandon war-time restrictions at once, and Article XIV of the Agreement authorized

members to maintain and adapt exchange restrictions, without prior approval of the Fund, during a transitional period of indeterminate length. Members operating under Article XIV were, however, required to consult annually with the Fund concerning the maintenance of such restrictions. Before 1961 only ten countries, all of them in the Western Hemisphere (including Canada since March 1952), fully accepted the obligations of convertibility and non-discrimination embodied in Article VIII. In 1961 ten more countries (of which nine were Western European), which had previously availed themselves of the provisions of Article XIV, accepted the obligations of Article VIII. This important action formally recognized the restoration of convertibility of the world's major currencies and underlined the progress which had been made in restoring balance in the international payments system. The Fund expressed a desire to continue the procedure of annual consultations, which had been found useful in relation to the Article XIV countries, and in response to this initiative countries adhering to Article VIII agreed to have voluntary annual consultations with the Fund. The first such consultation between the Fund and Canada took place in February 1962.

24. One of the most important and best known aspects of the Fund's operations is the provision of financial assistance to members experiencing temporary balance of payments disequilibrium. Assistance may take the form either of a drawing, repayable within three to five years, which immediately provides additional foreign exchange to a member, or a "stand-by" arrangement assuring a member the right to draw a predetermined amount of foreign exchange any time within a 12-month period. Total drawings by members had exceeded the equivalent of U.S. \$6½ billion by April 30, 1962, while repayments had amounted to U.S. \$4½ billion. Members borrowing from the Fund draw resources from the pool which members have contributed, and it is the practice to draw those currencies which are convertible and relatively strong. The amount of the contributions and the drawing rights of each member are determined by the size of the quota. Canada's original quota was U.S. \$300 million; it was raised to U.S. \$550 million in 1959 when a major increase was made in the Fund's resources. It amounts to 3.7 per cent of the total quotas of U.S. \$15,057 million of the 76 members of the Fund as of April 30, 1962. In accordance with the standard practice, Canada's subscription, equal to its quota, was paid in gold to the extent of 25 per cent and in the form of non-interest bearing demand notes of the Government of Canada to the extent of 75 per cent.

25. When a member obtains financial assistance from the Fund by drawing foreign exchange it pays for it with its own currency. A drawing which would increase the

Fund's holdings of the borrower's currency to 100 per cent of quota is viewed as borrowing back the gold originally subscribed and members are given "the overwhelming benefit of the doubt" in requests for drawings within this so-called "gold tranche". The Fund takes "a liberal attitude" toward drawings in the "first credit tranche", i.e. drawings which increase the Fund's currency holdings of the member above 100 per cent but not above 125 per cent of quota. Drawings beyond this point require "substantial justification". Article V places a maximum of 200 per cent on the Fund's holdings of a member's currency, but this could be "waived" by the Board.

26. Canada has not borrowed from the Fund, but Canadian dollars have been drawn on three occasions: the Canadian dollar equivalent of U.S. \$15 million by Egypt in 1956, U.S. \$10 million by Australia in 1961 and U.S. \$75 million by the United Kingdom in 1961. Such drawings have the effect of increasing Canada's drawing rights while repayments in Canadian dollars have the reverse effect. As at May 31, 1962, the Fund's holdings of Canadian dollars amounted to the equivalent of U.S. \$388 million; the amount which Canada could draw within the so-called "gold tranche" was U.S. \$162 million. A drawing of the gold tranche and the first three credit tranches would yield U.S. \$574 million, and a drawing to 200 per cent of quota would produce U.S. \$712 million.

27. As indicated in paragraph 23, the attainment of one of the Fund's main goals, widespread convertibility, resulted in 1961 in the acceptance of the obligations of

Article VIII by a number of countries of Western Europe. This welcome development brought in its wake large scale movements of short-term capital from one country to another and raised the question of the adequacy of the Fund's resources to maintain the international payments system. In order to avoid any undesirable impact on the operation of the international payments mechanism from these developments, it seemed advisable to strengthen the resources available to the Fund. The course chosen was for the Fund to reach a decision on general arrangements by which it might borrow supplementary resources under Article VII of the Fund Agreement to be used, if necessary, to support the international payments system. The ten main industrial countries, including Canada, agreed in January 1962, subject to legislative approval, to lend their currencies to the Fund up to specified amounts when the Fund and these countries decide that supplementary resources are needed to forestall or cope with an impairment of the international monetary system. The total amount of such supplementary resources is U.S. \$6 billion of which Canada's commitment will be U.S. \$200 million. Use of these supplementary resources will be in accordance with the Fund's established policies and practices with respect to the use of its resources, including the time period of three to five years. The Fund will repay the countries that made the supplementary resources available when it receives repayment, and in any case not later than five years after the borrowing. In addition, a country that has lent to the Fund can receive early repayment upon request if its own payments situation has deteriorated. Rights to repayment are fully backed by all the assets of the Fund.

APPENDIX II

THE FOREIGN EXCHANGE MARKET IN CANADA

28. The hub of the foreign exchange market in Canada is the inter-bank market. Farther out is an inner rim consisting of the head office foreign departments of the banks who, in effect, act as wholesalers of exchange. Beyond that again is an outer rim consisting of the branch banks with whom the public conduct their dealings and who may be likened to retailers. In this category are also the post office, express companies and other organizations who provide a service in money orders, travellers' cheques, etc.

29. The inter-bank market is centred in Montreal and Toronto where the chartered banks have their head offices. Neither non-resident banks nor resident investment and financial houses, commercial and industrial corporations have direct access to this market, which is limited to the chartered banks and the Bank of Canada.

It has no written constitution, rules, or regulations but follows informally agreed procedures and traditional patterns of behaviour.

30. The banks do not deal with each other directly but exclusively through the medium of brokers with whom they place buying orders (bids) or selling orders (offers) for stated amounts of exchange at specified prices. The function of the broker is to bring buyers and sellers together until a mutually acceptable rate is agreed upon and a deal made.

31. Brokers do not themselves hold exchange positions or buy and sell for their own account; nor do they have any hand whatsoever in the ultimate completion of the deal. When the deal has been arranged they send a confirmation to each of the principals. The confirmation sets out the amount, the rate, the date on which and the

manner in which payment is to be effected. The brokers' job is then finished. Thereafter the banks complete the transaction directly with each other, the one making delivery of the exchange to the account of the buyer in a bank in the foreign centre nominated by him and the other making payment of the Canadian dollar equivalent locally.

32. There is a broker's office in Montreal and one in Toronto, each in direct telephone connection with the chartered banks and the Bank of Canada. The two brokers in each office are paid fixed salaries by the Canadian Bankers' Association who also provide office space and pay office expenses. This is a feature in the foreign exchange system in Canada which differs from the custom of exchange markets in other centres. It differs also from the pattern followed here before September 15, 1939. Up to that time, in common with exchange markets elsewhere, brokers obtained their remuneration by charging a commission, or brokerage, on each deal on an agreed percentage basis. (This brokerage varied in Canada from time to time in the inter-war period but was 1/64 per cent in 1939.) The brokers paid their own expenses and were in business for themselves, though they could not, of course, deal for their own account, and accepted orders only from Canadian banks. The Macmillan Commission Report mentions that in 1933 there were six brokers in Montreal and two in Toronto.

33. The minimum lot for trading is \$100,000. Dealings may be for spot exchange (in which delivery is normally made on the next banking day common to both centres concerned), for forward exchange (in which delivery is made on an agreed future date) and for exchange swaps (in which purchases of exchange for spot delivery are made simultaneously against sales of like amounts for forward delivery).

34. While trading in spot exchange is conducted in the market on the basis of the value of the foreign currency in terms of the Canadian dollar, forward exchange is quoted on the basis of the difference (spread) between the value of spot and forward expressed as a premium or discount. Thus United States dollars for ninety days forward delivery may be quoted at "1/8c premium" over spot; "1/32c discount" on spot etc.; ninety day sterling might be quoted at "1/2c premium"; "1/4c discount" etc. On swap transactions it is only after the broker has brought buyer and seller together on the basis of the spread that the actual value to be put on both the spot and forward ends of the deal is agreed. Before the war it was difficult to arrange forward transactions either outright or in the form of swaps for longer periods than three months. The situation has improved considerably and trading for periods up to six months

ahead is normal. Deals for much longer periods are harder to arrange but do, at times, go through the market.

35. Imports and exports and many other kinds of business operations give rise to forward exchange transactions by which people protect themselves against exchange risk. In the simplest case, an exporter expecting to receive foreign exchange at a specific date in the future will sell it forward to his bank; an importer committing himself to pay foreign exchange at a specific date in the future will buy it forward from his bank. When it is not feasible for the client to name a precise date at which he can make or take delivery of the exchange, the bank may arrange the contract to give him the option to deliver within a stated period of 15 days or a month. Swap transactions may arise in a variety of situations. Banks do not usually balance off a forward position which they have entered into with their clients by looking to the inter-bank market for an offsetting outright forward transaction corresponding as to date, but instead hedge the greater risk of the spot rate first by a spot deal, waiting for an opportune time to cover the secondary risk of the forward premium or discount. In consequence the turnover in the market for swaps is greater than for outright forwards.

36. In recent years there has been considerable activity in a "swap-and-investment" technique known as "interest arbitrage" which consists of making use of exchange swaps to convert liquid funds into the currency of another country for investment in short-term securities in order to obtain a better yield than can be obtained on a similar class of investment in one's own country. If the yield on United States treasury bills is $\frac{3}{4}$ per cent below the yield on Canadian treasury bills, and the Canadian dollar can be bought spot and sold forward at a discount equivalent to $\frac{1}{4}$ per cent annually, Canadian treasury bills offer a yield higher by $\frac{1}{2}$ per cent on a covered basis to United States investors. Operations of this type have been known for many years, particularly in Europe, but the volume has increased greatly in recent years as exchange restrictions imposed during the war have been modified or withdrawn. Interest arbitrage dealings in Canada were of no great importance until the past few years but are now very substantial. The principal participants are the banks themselves, investment houses, insurance companies and similar financial concerns, who have large holdings of liquid funds at all times, and industrial corporations and public bodies who may from time to time have funds for temporary investment. The effect of interest arbitrage when undertaken in volume is of course ultimately to bring the net yields available in such operations sufficiently in line that they are no longer attractive.

37. Almost all dealings in the inter-bank market are in United States dollars and sterling. These are international currencies in the sense that they are used in world trade between countries other than the United States and the United Kingdom. Prices of many commodities are quoted and trade conducted in terms of one or other of these currencies as also are freight and insurance. Only a small proportion of Canada's external trade is denominated in Canadian dollars; to trade in terms of Canadian dollars would be simpler for residents of Canada, but less convenient for non-residents and might involve some additional cost in covering exchange. In the main, banks cover their requirements of the currencies of other countries by going through New York or London or by the sale of United States dollars, sterling or Canadian dollars in the country whose currency is needed. Nevertheless transactions are occasionally arranged in the market here in the currencies of Continental European countries.

38. There has been a large increase in the turnover in the foreign exchange market since the pre-war period. Perhaps the most important reason is the elimination of the brokerage; traders are no longer deterred from placing a selling order in the market even though they believe that later in the day they might have a buying order from a customer which would absorb all or part of the amount

they are offering in the market. Whereas up to 1939 the Canadian banks took a great part of their dollar exchange business to New York the tendency now appears to be for the New York banks to bring their business to Canada. There has been a large increase in the volume of forward transactions, particularly swap transactions; this reflects the more widespread practice among the banks' customers of covering their exchange risk forward, and the more active participation by Canadian investment houses and banks in interest arbitrage transactions.

39. It should perhaps be noted that the inter-bank market turnover which amounted to almost \$2 billion in 1961 is only a fraction of the sum total of Canada's international dealings in the course of a year; Canada's international transactions on current account alone exceeded \$16 billion in 1961. The explanation is that with only a relatively few banks, each constitutes a considerable market in itself: banks are able to offset or "marry" their purchases and sales largely within their own systems and only need have recourse to the inter-bank market to dispose of surplus receipts or to cover net deficiencies. The size of the market turnover will vary according to the random way in which purchases and sales offset each other or fail to do so in each bank's own internal operations.

